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THE CO-OPERATIVE COOPERS OF MINNEAPOLIS.

It is now almost twenty years since Dr. Albert Shaw, with something of pride in the progressive and self-reliant spirit shown by the workingmen of the city of his residence, described,¹ among other co-operative enterprises in the North-west, the rise and progress of the co-operative movement among the coopers of Minneapolis. This has long been looked upon as the most conspicuous and successful example of productive co-operation in the United States. It is proposed in the following pages to relate the history of the movement since 1886.

It will be remembered that the first experiment in co-operation among the Minneapolis coopers was made in 1868 by four journeymen, and that it was discontinued on account of a temporary stoppage of the flour mills after a few months of successful operation. In 1870 a similar experiment was made, again successful while it lasted, for about two years, but was brought to an end by the duplicity of the treasurer of the concern, who captured

¹In the *Publications of the American Economic Association*, vol. I. No. 4, reprinted in the *Johns Hopkins University Studies*, Sixth Series, 193-243.

the contracts secured for the co-operators, and started on an independent career as a "boss" cooper. About this time changes in the milling process, especially those brought in by the use of the roller for grinding and of the middlings purifier for separating the product, were introduced into the Minneapolis mills. These changes soon revolutionized the milling industry everywhere, and caused the industry at Minneapolis, which was at the door of a great region producing hard spring wheat especially adapted to the new process, to go forward by leaps and bounds. In 1870 the product of the mills was less than 200,000 barrels of flour. By 1873 this amount was trebled, and by 1880 the production had reached 2,051,840 barrels. The result of this expansion of the milling industry was to invite large numbers of coopers to the city. More came than could be regularly employed; and, as a means of saving themselves from the evils of the competition that followed, a group of sixteen journeymen in 1874 started what proved to be the first permanently successful co-operative enterprise among the barrel-makers of Minneapolis,—the Co-operative Barrel Manufacturing Company. From that time till 1886 many similar shops were started, some of them doomed from the beginning to an ephemeral existence, others destined to a more or less successful but brief career, and then to absorption by the stronger shops. Dr. Shaw in 1886 described the seven surviving shops engaged in the manufacture of flour barrels and one engaged in making tight cooperage.

When the description was given, the outlook for co-operation in the "North-west" was very bright, and for the coopers especially so. In twelve years the co-operative plan of making barrels had so far displaced the "boss" plan that two-thirds of all the men employed in the industry were in the co-operative shops. These shops had proven financially successful, their credit was high, their

property was constantly increasing in value, their business was expanding. The success of co-operation was still further demonstrated by its promotion of habits of thrift, temperance, and steadiness in the workmen. The industry seemed especially adapted to democratic control; and the co-operators, being themselves laborers, were not subject to the trials and losses arising from labor disputes. Moreover, the industry upon which their own was dependent was an expanding one, and promised to continue so. It was not unnatural to conclude, therefore, not only that the co-operative shops would become an increasingly important factor in that milling centre, but that the co-operative plan of production would be rapidly extended to other milling centres as well.

Some of the general conditions of success have remained favorable. Minneapolis has grown rapidly and solidly. From a village of 2,500 in 1860, it had already become a flourishing town of 13,000 in 1870. A decade later it had a population of 47,000, in 1890 one of 165,000, and in 1900 a little less than 203,000. This growth has had a bearing upon the success of the co-operative cooper companies, since the increase in the value of the real estate purchased has been an important factor in the gains of the more prosperous of them. The milling industry of the city has continued to expand beyond all expectation.¹ But there

¹For convenience of reference, the following table, showing the output and the direct exports from the Minneapolis mills for a series of years, is given. The figures are derived from the *North-western Miller*:—

	Output, bbls.	Exports, bbls.		Output, bbls.	Exports, bbls.
1878 . . .	940,785	107,185	1892 . . .	9,750,470	3,337,205
1879 . . .	1,551,790	442,800	1893 . . .	9,377,635	2,577,275
1880 . . .	2,051,840	799,440	1894 . . .	9,400,535	2,370,756
1881 . . .	3,142,970	1,181,322	1895 . . .	10,581,635	3,080,935
1882 . . .	3,175,910	1,201,630	1896 . . .	12,874,590	3,717,265
1883 . . .	4,046,220	1,343,105	1897 . . .	13,635,205	3,942,690
1884 . . .	5,317,670	1,805,875	1898 . . .	14,232,595	4,052,585
1885 . . .	5,221,245	1,834,545	1899 . . .	14,291,780	4,009,135
1886 . . .	6,168,000	2,288,500	1900 . . .	15,082,725	4,702,485
1887 . . .	6,574,900	2,650,000	1901 . . .	15,921,880	3,897,905
1888 . . .	7,056,680	2,197,540	1902 . . .	16,260,105	3,410,405
1889 . . .	6,088,865	1,953,815	1903 . . .	15,581,805	3,080,610
1890 . . .	6,988,830	2,107,125	1904 . . .	13,652,735	1,741,120
1891 . . .	7,877,947	3,038,065			

has not been an increase in the cooperage business corresponding to the great growth in the production of flour. In fact since 1890 there has been scarcely any increase in the production of barrels. In that year 3,124,000 barrels were required to pack the 45 per cent. of the flour that went into wood; in 1895 only 26 per cent. was packed in wood, requiring but 2,718,000 barrels; in 1900 but 21 per cent. was packed in wood, requiring 3,215,000 barrels. The largest annual production was that of 1901, when 3,451,000 were turned out. Since then the demand has fallen to about that of 1890. At present about 20 per cent. of the flour is packed in barrels, and the percentage is likely to decrease rather than increase.¹

A number of causes have conspired to produce this stationary condition of the flour-barrel industry. The most important of these is the increased cost of barrel stock without a compensating economy in production. The oak staves formerly thought to be necessary have practically disappeared from the market, elm staves taking their place. Hickory hoops have been largely displaced by "patent" coiled hoops cut from the same wood. But the supply of elm has been constantly growing shorter through the increasing draughts made upon it not only for barrel stock, but for furniture as well. No satisfactory substitute has been found for it, though Southern gum has been used with some success for staves, and birch is beginning to be freely employed. A limited use of wire hoops has also tended to check the rising prices for coiled

¹ The following table, compiled by Mr. F. J. Clark, of the *North-western Miller*, shows the number of barrels sold by all the Minneapolis shops and the percentage of Minneapolis flour packed in wood for a series of years:—

	<i>Barrels sold.</i>	<i>Per cent.</i>		<i>Barrels sold.</i>	<i>Per cent.</i>
1889	2,617,990	40.3	1897	3,158,035	23.0
1890	3,123,045	44.7	1898	3,250,835	23.0
1891	2,612,470	33.2	1899	3,312,590	23.2
1892	3,404,545	34.0	1900	3,214,965	21.3
1893	3,095,503	33.0	1901	3,450,605	22.0
1894	3,061,935	32.5	1902	3,343,710	21.0
1895	2,718,125	26.0	1903	3,129,360	20.0
1896	3,386,460	26.3	1904	2,836,320	20.7

elm hoops. As lately as 1896, however, elm staves were selling at \$6 to \$6.50 per M., patent hoops at \$6.50 to \$7 per M., heading at $3\frac{1}{2}$ to $4\frac{1}{2}$ cents per set, and eight-hoop flour barrels were selling at 28 to 30 cents each. By 1899 elm staves had risen to \$8 or \$8.50 per M., patent hoops had gone up to \$11 or \$12 per M., and barrels were selling for 37 cents. Successive advances in the price of stock have forced the price of barrels within the last two years as high as 45 cents, and they are still selling at 42 or 43 cents. Not only is the price high, but, owing to the expense of storing large quantities of barrels, the frequent shortages in the supply of stock, and other causes, the supply of barrels cannot always be depended upon by the millers when an extraordinary demand is made upon it. Moreover, the cost of handling and packing is greater for wood than for sacks, except when small sizes of sacks are used.

The Minneapolis millers, therefore, have long discouraged buyers from having their flour packed in wood. But they cannot refuse to pack it in that form as long as the buyer is willing to pay the difference charged,—a difference that ranges from 10 cents to 20 cents per barrel according to the size and material of the sack used. So much some classes of buyers are willing to pay rather than surrender an established method of purchase. The small dealer finds the barrel a convenience in selling out small quantities. Bakers in some localities prefer the barrel because of the protection it affords against rats and mice. Even the millers prefer it for storage purposes; and, when shipments are made by lake, the barrel is the most serviceable kind of package. Buyers are the more willing to use it, since they are in part recouped for the extra expense by selling the second-hand barrel. In fact, it is often said that all that keeps the industry going is the demand for second-hand barrels for packing vegetables, fruit, and

even flour in some of the Eastern mills, and for other purposes. The coopers anxiously scan every proposed change in the method of making or marking the barrels, such as stamping the hoops, to ascertain its probable effect on the sale of the second-hand barrel. Two or three years ago, when some Eastern trade journals began a crusade against the use of second-hand packages, ostensibly in the interest of cleanliness, but really in the supposed interest of the coopers and the manufacturers of stock, those speaking for Western interests immediately pointed out how damaging such an agitation would be to the Western trade, which was kept alive largely by the practice that was being attacked.¹ In a word, it is in what is generally regarded as a stationary industry, if not a decaying one, that the most persistent effort at co-operation in the United States has been made. If the experiment has not become all it promised in 1886, the facts recited will help to explain the reason why.

Of the seven co-operative companies existing in 1886, but three survive. These are the Co-operative Barrel Manufacturing Company, organized in 1874, the North Star Barrel Company, organized in 1877, and the Hennepin County Barrel Company, organized in 1880. Of the other shops described by Dr. Shaw, the Phoenix Barrel Company, started in 1881, was the first to succumb. This shop had never put in machinery; and, when in 1888 it met with a serious loss by fire, it dissolved, 18 of its 30 members going to the Hennepin Company and a few to each of the older companies. The president of the Phoenix at the time of its dissolution is now, and has for some years been, the president of the Co-operative Barrel Company. The Minnesota Barrel Company, which started

¹The *North-western Miller*, April 2, 1902. See also articles by Mr. F. J. Clark in the *North-western Miller*, November 15, 1899, and in the *National Coopers' Journal*, May, 1904.

in 1884, failed in 1890 through "poor management and factional strife within the membership." The exit of the Acme Barrel Company in 1896, after a career of ten years, was a stormy one. It suffered from a fire in the latter part of 1895, and the majority of the 43 members decided upon rebuilding on a larger scale than before. It seems that a minority regarded this procedure as unwise, and that overtures were made by them to the other shops to block the plan, provided they should be taken care of by those shops. The plan was blocked temporarily by an injunction secured on the ground that the condition of the market would not warrant the use of the company's funds in rebuilding, especially on so large a scale as was proposed; and, after several weeks of strife, the company was dissolved, nearly half of the men accepting employment in the other co-operative shops, and most of the others going to West Superior to form a co-operative shop at the instance of stock manufacturers,—an enterprise that soon failed. The North-western Barrel Company, formed in 1881, conducted a successful business till 1896. Then, owing to severe competition, it was induced to consolidate with the Hennepin, the whole of the 36 members being added to the membership of the latter company. The Twin City Barrel Company, started in 1886 for making tight cooperage, seems never to have developed into any importance. The co-operative store organized about the same time, which seemed to indicate a tendency of co-operation to bud out in various directions, was continued about four years and then went down, involving its members in considerable loss. The reasons assigned for failure are not new in the annals of co-operative enterprises. Too many wanted to be general manager and too few paid cash, too many clerks and too little capital and trade, and, withal, a lack of loyalty. All the \$2,400 of capital invested was lost; and the president and the manager, who had bor-

rowed \$500 on their personal credit to keep the company up for a time, lost that besides.¹

Other barrel companies organized on the co-operative plan have had, since 1886, their entrance and their exit. An interesting example, because it stands alone in many respects, is that of the National Barrel Company, formed in 1895 among the employees of the Hardwood Manufacturing Company, operating one of the "boss" shops. Fifty-five men formed a company on the co-operative plan, paid the Hardwood Company so much per barrel for the stock consumed, the use of the buildings, machinery, etc., and, after selling the barrels to the mills, took the surplus for their wages. The plan seems to have been organized more in the interest of the employing company than of the coopers, who, though nominally receiving the union scale of wages, are understood to have received a net wage somewhat lower than that in consequence of assessments made to cover losses at various times. The arrangement did not work very smoothly, but was continued till two or three years ago, when the Hardwood Company introduced additional machinery, which displaced a large number of coopers.

The two most important undertakings in recent years, however, are those of the Flour City Barrel Company, started in 1897, and the Cataract Barrel Company, started in 1901. Both of these companies were regarded by the older shops as unwelcome invaders of a field that had become in some way their own. The Flour City Barrel Company was started with 16 or 18 members, and the number was later increased to 20. It used a rented building, and until the year before its dissolution in 1902

¹About the only case in which co-operation has shown itself among the barrel makers, other than in their regular business, in recent years, is that of the formation of a "Mutual Benefit Association" during the nineties by a portion of the members of the Co-operative Company. The association paid sick benefits at the rate of \$5 per week up to 13 weeks. No fixed schedule of assessments was established, calls being made upon the members only when a benefit was to be paid. The association was kept up for ten years, but has been discontinued.

remained a hand shop. When, in 1900, a disastrous fire occurred on its property, efforts were made by the other shops to secure the dissolution of the company on the basis of giving employment to the members in the other shops. But, instead, during the next year the membership was increased, 5 to 10 journeymen were employed, and in December, 1901, machinery was installed with a view to enlarging the output. In February of the same year the Cataract Barrel Company had organized on the co-operative plan with 12 members. The output of the Minneapolis shops was greater for the year than in their history before or since; but the price of barrels fell off a cent during the year, and early in 1902 was forced down a cent and a half more, to 36½ cents, without any substantial change in the price of stock. This is what had been predicted when the Cataract Company was formed. From the beginning it had trodden a thorny path. Not only did the existing companies seek to secure its withdrawal; but the same end was sought by the local coopers' union, of which the new co-operators were members, and from which they were soon expelled on the ground that their continuance in business would compel the employers to cut down wages, and that the action of the new company was, therefore, prejudicial to the interests of the union. The Cataract men then secured a new charter, and started a union of their own; but, when they sought admission to the Minneapolis Trades and Labor Council, their old companions attempted, though in vain, to keep them out. As prices declined in the early part of 1902, efforts were renewed by the barrel manufacturers to get rid of their troublesome competitor. One project was to bring about the consolidation of the company with the Flour City Company.¹ Another was to give employment to the men in the other shops; but this was rejected, the men demanding mem-

¹ *The National Coopers' Journal*, June, 1902.

bership in the co-operative companies as a condition to disbandment.¹ At length, however, the troublous career of this company, as well as that of the Flour City, was brought to a close by the action of the milling concern to which they chiefly sold their product. A dispute had risen between the Cataract Company and the Hardwood Company as to the proportion of barrels to be supplied by each, when in June, 1902, the milling company announced that thereafter it would take its whole supply of barrels from the Hardwood Company. This brought the Cataract Company to an abrupt end, and supplied the conditions necessary for successful negotiations with the Flour City Company, which now agreed to retire, on condition that its machinery should be bought and the members should be employed by the other companies. The policy adopted towards these two companies seems to show the existence of the theory that, in consequence of the solid position attained by the present shops, Minneapolis is not to be considered an open field for future co-operative enterprises in the making of flour barrels.

It might be inferred from the fact that attention has been fixed upon the failure of so many co-operative enterprises that the movement as a whole has been a failure. This inference, however, can hardly be drawn from the facts. The mortality among the co-operative shops has been little, if any, greater during the past twenty years than among the private shops. In 1886 there were seven co-operative shops, and now there are only three; but in 1886 there were four private shops (shortly before there had been five), and now there are but two. The aggregate net assets of all the co-operative companies reported in 1886 were about \$150,000, of which \$118,000 belonged to the three companies now remaining. These three companies now have assets amounting to something over \$160,000. In the matter of membership there

¹The *North-western Miller*, April and May, 1902.

has been a decided falling off. The total membership in 1886 was 324, of which 201 (in October of that year) were in the three companies now existing. These figures, it should be said, moreover, show a sharp decline as compared with the membership of 1885,—a decline due to a bad business year and to the further introduction of machinery in some of the shops. The three companies have now an aggregate of 146 members, and the future will probably see a still further decline. Judged by the output, the co-operative shops have held their own. There are no returns to show the production by companies in 1886; but, according to Dr. Shaw, the co-operative shops at that time employed two-thirds of the men engaged in the industry, and it is probable they produced about that proportion of the barrels made. In 1904 they produced nearly three-fourths of the output.¹

The increase of output and decrease of membership carries with it a suggestion that the companies have become less co-operative than they originally were, and this seems to be the case. The co-operative companies began with "hand" shops, not indeed of the older type, where staves and heading and hoops are all fashioned by the cooper,² but of the type where the machine-made stock was worked up entirely by hand. It was about 1874 that one of the private shops in Minneapolis introduced machinery. It was eight years later that the first

¹The *North-western Miller*, March 15, 1905. The following table shows the number of barrels made for the last five years by each of the two co-operative companies furnishing the present writer data:—

Year.	The Co-operative Bbl. Mfg. Co.	The North Star Bbl. Co.
1900	638,232	716,756
1901	750,347	690,715
1902	577,993	651,567
1903	623,093	662,898
1904	618,956	618,319

²In the early days of co-operation in Minneapolis the hickory hoops, then universally employed, were usually made by the coopers, who split them from the poles and shaved them during slack times. The introduction of the flat hoop, therefore, lessened the amount of work to be done by the coopers. Even before the flat hoop was generally adopted, however, manufacturers had found that the higher freight charge on poles nullified the advantage coming from making the hoops in the shop.

of the co-operative companies, the Hennepin, put in machinery, and another three years before the North Star and the Co-operative Barrel Company became (1885) machine-shops. The machinery introduced at this time consisted of three pieces, the power windlass for drawing together the staves left spreading at one end when placed in the two truss hoops, which hold them together at the other end; the trussing machine, used for pressing the heavy truss hoops to their proper places preparatory to driving on the permanent barrel hoops; and the crozing machine, which champers the ends of the barrel, and cuts the groove for receiving the head. The displacement of a large amount of hand work involved in the use of these machines was resisted as long as possible by the co-operative companies, for they were composed of men whose chief interest lay in the employment of the skill they had acquired. When the machines were introduced, there was necessarily a reduction of membership. Thus, in 1884, the North Star had 80 members; in 1886, the year following the setting up of the machines, but 65. During the same time the membership of the Co-operative Company was reduced from 120 to 90. Whenever it has become necessary to increase the membership, as in the process of getting rid of a competitor, the problem has soon presented itself of getting rid of the increase. The Hennepin Company in 1896 absorbed the Northwestern, increasing its membership from 60 to 96, but within two years 30 had withdrawn, and the number has since been reduced to 57. The use of machinery has compelled the employment of a larger proportion of non-members than before, for it is only coopers that have been admitted to membership. Nearly half the men in the Hennepin shop are non-members: about one-third of the wages paid by the Co-operative Company goes to outsiders. In the North Star 30 non-members are reg-

ularly employed, only 3 or 4 of them coopers; and in busy seasons the company employs 25 or 30 journeymen additional. It is clear, therefore, that the character of the undertaking has been considerably modified by the enforced use of machinery.

The relations between the co-operators and their employees do not differ materially from those existing between employer and employed elsewhere. Journeymen, when employed, are given the same wages as the members. It is true that during the period of activity of the Knights of Labor the co-operative coopers were members of that order, and that in the early nineties they went into the Minneapolis local of the International Coopers' Union along with their own employees and those of the "boss" shops. But their position was from the first an anomalous one, since it gave them the power to control the wage scale they had to pay on the one hand, and, on the other, to dictate in many matters to their competitors the conditions of employment. More or less dissension rose in the union, and finally the members of the Co-operative Company and of the North Star secured a charter for a separate union. The Hennepin Company remained in the original union with the employees of their competitors. When in the fall of 1902 the chief one of these competitors put into his factory machinery which changed greatly the conditions of employment, the Union Committee, which went to secure an adjustment of the difficulties that soon arose, had upon it a member of the Hennepin Company and also the president of the union, who was an employee of the Hennepin Company,—a situation which very naturally had its effect in bringing on a strike in the private shop. A year later, during the long strike of the mill hands, the Hennepin Company came into conflict with the union because as a manufacturer it undertook to nail the linings in barrels,—work which had been done before

in the mills by the members of the Packers' and Nailers' Union, which was affiliated with the Coopers' Union. The Hennepin shop was placed on the "unfair" list, and its members finally suspended from the union. About the same time the Union composed of the members of the other two co-operative companies was deprived of its charter, an action no effort was made to check. The conflict of interests between the co-operators and the journeymen was again shown in 1903, when the latter sought to secure an eight-hour day. The co-operative shops did not fancy this method of "making work" any more than the private shops did, and they succeeded in killing the movement. In a word, in dealing with employees, whether organized or not, the co-operative companies have been influenced by much the same considerations as other employers are.

Another incident that indicates that the movement is losing something of its co-operative character is found in the change adopted by one of the companies in the method of dividing the earnings. All the companies started with the plan of apportioning "gains and losses pro rata upon the wages received by each member," except those from hired help and from the sale or manufacture of stock,¹ which were to be apportioned equally among the members. In the early nineties the North Star discontinued the use of wages as a basis for the division of any part of the earnings. The explanation of the change is as significant as the change itself. "It's money makes the business go, not the men," said an officer of the company. "We can get all the men to work we want." The officers of the other companies feel by no means sure that the North Star's plan is not the right one. They seem to maintain

¹The Co-operative Company twenty years ago owned a plant in Wisconsin for the manufacture of barrel stock, but the venture did not turn out well and it was discontinued. In the early part of 1904 the company started a factory at Frederick, Wis., for the manufacture of heading, with a capacity of 3,000 pairs per day. This company and the North Star each secured timber lands in Oregon to provide for a future supply of stock, but this supply has not yet been drawn upon.

their old scheme of division not from principle, but from inertia. The surrender of this characteristic of co-operation leaves the North Star really nothing but a joint stock company of 40 members owning the stock in equal amounts.

We may thus feel some regrets that the movement of which so much was expected twenty years ago has in some respects failed. It has not extended its benefits to large groups, but, on the contrary, has constantly narrowed the number enjoying them. It has not served as an encouragement to other and varied enterprises in the same direction, and has failed to develop and has perhaps lost something of what the writers call the "co-operative spirit." Yet, even though we may be disposed to regard the coopers as associations of producers organized to exploit laborers for a profit rather than as associations of workingmen organized to secure the profits of their own labor, it must still be admitted that the movement has been attended with encouraging success. For more than a quarter of a century the experiment of considerable groups of men employing their own labor and directing it in a purely democratic way, as among the members, has been carried on with financial success. Just what their gains have been it is impossible to say, nor is it so important to know. The pioneers started with very little, and they have accumulated in their business the value of their shares, ranging from \$1,000 to \$1,250, and most of them have become the owners of their homes and of other property besides. A few years ago, says a correspondent, when a bank in the neighborhood of one of the co-operative shops failed, "everybody was surprised to learn how much money many of the members had in the institution." In fact there is every indication of prosperity in the business and of thrift among the members.

But, as Professor Gide has said in speaking of the French co-operators: "To set a money value upon the benefits

of co-operation is to judge it by unimportant consequences. The co-operative workmen do not judge it thus. At least they do not make an increase of income the chief end of their efforts. What they have sought above all else is independence and security." The coopers mean the same thing when they say that the greatest advantage for them in co-operation lies in permanence and regularity of employment. And this they have gained. The membership of the companies is remarkably permanent, changes being but rarely made. The control which the men have over the conditions of their own employment has made it possible for them to protect themselves to a large extent against the out-of-work evil which, under private control, inevitably exists in the trade. Whereas formerly "a man's berth was his store-room," the co-operative companies, to secure regularity of employment in a trade that runs to seasons, have as a policy enlarged their storage capacity beyond what pure profit-making considerations would warrant. During dull seasons such outside coopers as they have are, of course, laid off, and the members may have to work on a stint; but they rarely have to stop work. Moreover, all observers agree that one effect of the movement has been to improve the character of the men. The high character of the men in the companies to-day is, no doubt, in large part due to the training which participation in such an undertaking yields, but also in large part to the sobering influence of increasing age and to the weeding out of those who had not the qualities for taking risks and meeting discouragements. When men are called upon, as these sometimes have been, to pay as assessments \$5 per week out of a \$7 wage for an indefinite period, the weak-hearted are likely to surrender their berths.

Again the movement has encouragement in it because it shows that democratic control does not necessarily involve dishonesty, insubordination, or the incompe-

tence that comes from frequent changes in office. In the history of all the societies during a period of thirty years it is said that not a dollar has been lost through the dishonesty of officials. While the rules provide for the discipline of unruly members, they seem rarely to have been put into force. The members have learned that efficient management cannot be had with frequent changes of officials. "At first," said one member, "everybody wanted to be president, and the board of managers was changed frequently. But it was soon found that it cost too much to educate a man." The policy in all the companies now is, and has been for some time, to re-elect the officers year after year. The president of the North Star has held office for thirteen years and the secretary for twelve years. The president of the Co-operative Barrel Company took office twelve years ago and the secretary fourteen years ago. While the president of the Hennepin has served consecutively only four years, the secretary has served almost continuously for twenty-one years.

It must be said, however, that the co-operative companies are now facing a crisis somewhat like that they had to meet in the eighties, and in many ways a more dangerous one. Within the past two or three years the private shops have introduced new machinery that seems to be successful for heading and hooping the barrel automatically. This machine leaves practically nothing for the cooper to do. In one shop, that of the Minneapolis Coöperage Company, where 32 coopers had been employed, all but 6 have been displaced by the "hooping-off" or "heading-up" machine, as the new device is called. In the other private shop in Minneapolis a similar reduction has occurred. The Hennepin Company, which had been the first of the co-operative shops to introduce machinery twenty years ago, promptly put in a "heading-up"

machine, the invention of one of its members. But it was soon taken out, partly because it did not work perfectly, but partly, also, according to one of the officers of the company, because of opposition shown by the members. The interest of the co-operators as working-men shows itself here quite clearly. Their interest does not lie primarily in introducing economies into the trade, but rather in perpetuating old conditions of production that will insure the employment of their acquired skill. If they are compelled to put in this new machine, as they probably will be, to meet the competition of their rivals, their future seems very doubtful indeed. They will not be able to use their skill as coopers; and, being mostly middle-aged or old men, they cannot run the machines in competition with the young men and boys employed by the boss shops. It might be possible to save the co-operative character of the companies, if the members had that at heart, by taking in the machinemens, who have always been excluded from membership. This would, of course, introduce new factors into the problem of co-operative success, which has hitherto been kept comparatively simple in consequence of the simplicity of the process of production, the picked membership of the companies, and the perfect equality among the men as far as the kind of work done is concerned. There seems no disposition at present to face the new difficulties that would be involved in the admission of such new material. The more probable course seems for the coopers, recognizing themselves as victims of a very common incident of industrial progress, reluctantly to allow their skill to go to the scrap-heap, as they would an antiquated machine, contract the membership still further, and for those remaining to give place as active workers to younger men, and rest content with being earners of profits.

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THE PROBABLE INCREASE OF THE NEGRO RACE IN THE UNITED STATES.¹

IN the century-long problem of the adjustment of relations between whites and negroes in the United States the probabilities regarding the increase of each race constitute an important element. Those relations are influenced in manifold ways by the numerical proportion of the races in the country as a whole, and in its various divisions. Consequently the question of the relative growth of the two races in the near future is one of much importance. The factors controlling it are not well enough known to make any accurate forecast possible, yet perhaps we are now in a position to anticipate the course of events in this field during the century just beginning, with closer truth than has yet been done.

A starting-point may be found in certain opinions that have been expressed and controverted since the Civil War. In articles published in 1883 and 1884,² and based mainly upon the census figures for 1870 and 1880, Professor E. W. Gilliam estimated the probable negro population of the southern States alone in 1980 at 192,000,000 (or about 200,000,000 in the entire country). He estimated the probable number of whites in the country in 1985 at 336,000,000. In other words, he predicted that before the end of the twentieth century the negro race would amount to three-eighths of the total population of the United States. The errors in the bases on which this conclusion was rested, and the fallacies in the argu-

¹This article gives the substance of a lecture delivered at Harvard University in April, 1905.

²*Popular Science Monthly*, vol. xxii. pp. 433-444, and *North American Review*, vol. cxxxix. pp. 417-430.

ments by which it was supported, have been effectively exposed¹ and do not need to be restated.

In a book published in 1899 Mr. Booker T. Washington wrote,² "I think I am pretty safe in predicting that the census to be taken in 1900 will show that there are not far from ten millions of people of African descent in the United States." The number reported by the Twelfth Census fell short of this predicted number by more than 1,150,000, and, even if those enumerated by the War Department in Porto Rico and Cuba are included, a total of only about 9,700,000 is reached. Mr. Washington added,³ "It is my opinion that the rate of increase in the future will be still greater than it has been from the close of the war of the Rebellion up to the present time." The evidence against this opinion will be presented later. Neither in that book nor elsewhere, so far as I know, does he attempt an estimate for the remoter future.

In a book published in 1904 Mr. Thomas Nelson Page wrote,⁴ "Unless conditions change, it is possible that before the end of the century there may be between sixty and eighty millions of negroes in this country." And a little further on he adds,⁵ "It is true that prognostications of increase in a population often fail, but judging the future by the past and taking into account known racial characteristics, it would appear that the number thus prophesied will, in all human probability, exist in the United States by the end of the century."

The foregoing are all the estimates regarding the probable future increase of the negro race in the United States which I have met with in my reading. Unsatisfactory as the evidence is, it points to a conclusion widely different from any of these. Disregarding the figures for Porto

¹ Notably by Henry Gannett, in *Popular Science Monthly*, vol. xxvii. pp. 145-150.

² *The Future of the American Negro*, p. 5.

³ *Idem*, pp. 6, 7.

⁴ *The Negro: The Southerner's Problem*, p. 233.

⁵ *Idem*, p. 239.

Rico, Hawaii, and Alaska, the following table shows the negro population of the United States at each of the twelve censuses, and the amount and rate of increase by ten and twenty year periods.

TABLE I. *Negro population and amount and rate of increase for Continental United States by ten and twenty year periods: 1790 to 1900.*¹ (Unit = 10,000.)

Date of Census.	Negro population.	Increase during preceding		Per cent. of increase during preceding	
		10 years.	20 years.	10 years.	20 years.
1790	76				
1800	100	24	—	32.3	
1810	138	38	—	37.5	
1820	177	39	77	28.6	76.8
1830	233	56	—	31.4	
1840	287	54	110	23.4	62.2
1850	364	77	—	26.6	
1860	444	80	157	22.1	54.6
1870	488	44	—	9.9	
1880	658	170	214	34.9	48.2
1890	748	90	—	13.5	
1900	883	135	225	18.0	34.2

Table I. shows that during the nineteenth century the negroes of the United States increased, as a rule, by greater and greater amounts, but at a less and less rate. If attention is confined to the five twenty-year periods of the century, this rule is without a single exception. But, among the decennial increases, that from 1830 to 1840 was less than that from 1820 to 1830, which was probably due to the emigration of many slaveholders with their slaves from the United States to Texas between 1830 and 1840. That from 1860 to 1870 was not much above half that from 1850 to 1860, for which the Civil War and the serious omissions at the census of 1870 must be held jointly responsible; and that from 1880 to 1890 was only about half the apparent increase from 1870 to 1880. I

¹The exact census figures on which the per cents. are based and some minor explanations, unimportant for present purposes, will be found in Census Bulletin 8, *Negroes in the United States*, p. 29.

am inclined to the opinion that the census of 1890, like that of 1870, but to a much less degree, suffered from omissions in the south and especially among the negroes. To give the reasons at length would require a separate article. The most important ones are suggested by the series in the foregoing table, and are strengthened when the increase of negroes is compared with that of southern whites and the rates of increase for the two races in city and country are separately computed.

For present purposes I have sought to correct Table I. by inserting estimates in place of the census figures of 1870 and 1890. For 1870 I have taken the geometric mean of the figures for 1860 and 1880. Normally, but for the Civil War, the rate of increase in the later decade would probably have been less than in the earlier. I assume, therefore, that the effect of the war was to concentrate all the slight reduction in the rate of increase which occurred between 1860 and 1880, as compared with the rate between 1850 and 1860, in the decade 1860 to 1870, and make the rates in the decades 1860 to 1870 and 1870 to 1880 the same. This assumption raises the true number of negroes in the United States in 1870 from 4,880,000 to 5,405,000, and makes the omissions of negroes in that census 525,000. I believe the true number of negroes in 1870 was in the neighborhood of 5,400,000, and more probably less than more. If the same method of estimation be employed to determine the probable negro population of the United States in 1890, the result is 7,622,000 instead of 7,480,000, indicating the omission of 142,000 negroes by the Eleventh Census. But I see no reason, except the census figures, for believing that the rate of increase of the negroes, which fell almost steadily between 1800 and 1890, was higher between 1890 and 1900 than in the preceding decade. If any assumption at all is admissible, I believe it should be the assumption

of a decreasing rate and a constant amount of increase; or, in other words, that the true figures of 1880, 1890, and 1900 constitute an arithmetical rather than a geometrical progression. On this assumption the number of negroes in the United States in 1890 was 7,705,000 instead of 7,480,000, and the omissions of negroes at the Eleventh Census were 225,000. At any rate, these assumptions are plausible, and furnish a more uniform series than the unadjusted figures of the census upon which to attempt a forecast of the future.

The revised table is as follows, the estimated figures and per cents. being in italics:—

TABLE II. *Negro population and amount and rate of increase for Continental United States by ten and twenty year periods: 1790 to 1900 (adjusted figures in Italics). (Unit = 10,000.)*

Date of census.	Negro population.	Increase during preceding		Per cent. of increase during preceding	
		10 years.	20 years.	10 years.	20 years.
1790	76				
1800	100	24	—	32.3	
1810	138	38	—	37.5	
1820	177	39	77	28.6	76.8
1830	233	56	—	31.4	
1840	287	54	110	23.4	62.2
1850	364	77	—	26.6	
1860	444	80	157	22.1	54.6
1870	541	97	—	21.7	
1880	658	117	214	21.7	48.2
1890	770	113	—	17.0	
1900	883	113	225	14.7	34.2

The last columns of Tables I. and II. show that the rate of increase of negroes declined throughout the nineteenth century, that between 1880 and 1900 it was less than half of what it was between 1800 and 1820, and less than two-thirds of what it was between 1840 and 1860. It shows, therefore, that, if the future may be judged by the past, there is no warrant for the opinion I have quoted, "that

the rate of increase in the future will be still greater than it has been."

The estimate of Mr. Page, that the year 2000 A.D. "will in all human probability" see from 60,000,000 to 80,000,000 negroes living in the United States, appears to be reached by projecting into the future the rate of increase which prevailed between 1860 and 1880. If that rate were to persist throughout the twentieth century, there would be 63,000,000 negroes in the United States in 2000 A.D. If the rate shown by Table I. for the decade 1890 to 1900 should persist, there would be 46,000,000 negroes in the United States in 2000 A.D. If the rate shown by both tables for the twenty years, 1880 to 1900, should persist, there would be 38,000,000 negroes in the United States in 2000 A.D. If the rate shown by Table II. for 1890 to 1900 should persist, there would be about 35,000,000 negroes in the United States in 2000 A.D.; and, finally, if the rate shown in Table I. for 1880 to 1890 should persist, there would then be about 31,500,000 negroes.

If it were admissible to assume that any rate of increase would persist through the twentieth century, it would be best to accept that for the twenty years between 1880 and 1900, because it is based on the longer period and involves no correction of census figures. But the history of the nineteenth century and what is known about the increase of population concur in testifying that the rate of increase is likely to dwindle, and that 38,000,000 negroes in Continental United States in 2000 A.D. is much too large an estimate. Emancipation wrought so radical a change in the economical condition of the negro race that its increase before 1860 affords almost no clue to its probable increase in the future. The period since 1860 is too short, and the returns are affected by too large errors, admitted or suspected, to furnish much basis for a forecast. Yet, if we take as our base the

rate of increase 1880 to 1900,—namely, 34.2 per cent.,—and assume that in each score of years during the twentieth century the increase of the negroes will be less by 4 per cent. than in the preceding score of years,—and this slackening is only about one-third of that which has taken place since 1860 among the negroes, and one-half of that among the whites,—the per cents. of increase during the century just beginning will be as follows:—

1900-1920	30.2
1920-1940	26.2
1940-1960	22.2
1960-1980	18.2
1980-2000	14.2

The negro population at the end of the present century will then be less than 24,000,000. On the whole, I am disposed to believe that this assumption is as favorable to the negro race as any the facts warrant, that 25,000,000 is the maximum limit of the probable negro population of this country a century hence, and that it may fall several millions short of that figure.

Whether this opinion—for it is hardly more than that—does or does not find acceptance, there is no questioning the testimony of the figures that the rate of increase of negroes declined steadily throughout the nineteenth century, and, if we reject or disregard the census figures of 1870 and 1890, at no time so rapidly as between 1860 and 1900. This is made most obvious, perhaps, by comparing the rate of increase at each twenty-year period subsequent to 1820 with that of the preceding period treated as 100 per cent. The rate of increase 1820 to 1840 was 81.0 per cent. of that 1800 to 1820; the rate of increase 1840 to 1860 was 87.8 per cent. of that 1820 to 1840; the rate of increase 1860 to 1880 was 88.3 per cent. of that 1840 to 1860; but the rate of increase 1880 to 1900 was only 71.0 per cent. of that 1860 to 1880.

The rapid decline of white increase has been mentioned, and it might be thought that in this checking of negro increase we have to do, not with a racial problem, but with a general problem of American population. This is a superficial view. It is true that the whites in the country as a whole, in spite of the swarms of immigrants who come to swell their numbers, are growing at a slackening rate. But nearly nine-tenths of the negroes live in the southern States,—a region to which a steadily dwindling proportion of our foreign-born population goes,—and yet in the south the white population is growing with augmented rapidity. The evidence for this surprising fact has been presented in the recent census bulletin on *Negroes in the United States*,¹ and need not be repeated. Suffice it to say that, if each of the two races in the south should continue throughout the present century to increase at the rate that characterized it between 1880 and 1900, there would be in the south in 2000 A.D. about 33,000,000 negroes and 155,000,000 whites, and the negroes would constitute 17.6 per cent. of the population of the southern States, in which they now constitute 32.4 per cent. Doubtless each of the above figures is much too large; but, if the checking of growth which will appear in each race shall affect them in such a way as to keep the ratios of their increase what it has been for twenty years,—and I think this also is an assumption as favorable to the negro as the facts will warrant,—then the ratio of the above figures will be correct, and we may expect that the negroes, who in 1800 were 35.0 per cent. of the population of the southern States, who in 1840, when they were relatively most numerous, were 38.0 per cent., and who in 1900 had receded to 32.4 per cent., will continue to recede, and in 2000 A.D. are likely to be not more than 17.6 per cent. of the southern population.

¹ See p. 30.

Whether these forecasts have any value depends mainly upon whether the causes of the different rates of growth of the two races at the south can be ascertained, and a judgment formed upon the question whether those causes are likely to persist and whether counteracting influences are likely to arise. This raises the question, what are the causes of the slackening rate of growth among southern negroes? That race, unlike the whites, receives practically no re-enforcement from immigration. Only 20,000 foreign-born negroes were enumerated in 1900, or about 1 in 500 of the negro population of the United States. For this reason the increase of negroes must be controlled by the balance of births and deaths.

Regarding the *birth-rate* of the southern negroes we have no direct information. In default of that the best available substitute is to compute the number of children under 5 years of age to each 1,000 women of child-bearing age; namely, 15 to 49 or 15 to 44 years of age. I reject the figures of the censuses of 1870 and 1890, both because of the acknowledged errors in the former and the suspected ones in the latter, and because in 1890 the form of the age question was different from that employed in 1880 and 1900. For the sake of comparison the figures for southern whites are introduced:—

TABLE III. *Children under 5 years of age to 1,000 women, 15 to 49 years of age, in the South Atlantic and South Central States.*

<i>Date of census.</i>	<i>Non-Caucasians.¹</i>	<i>White.</i>
1850	705	695
1860	688	682
1880	737	656
1900	577	581

¹"Non-Caucasians" is preferred to the ambiguous "colored," which means sometimes negroes, sometimes negroes, Indians, and Mongolians, and sometimes mulattoes. In every case in which non-Caucasian is used negro might be substituted for it without material inaccuracy, and for this reason I have occasionally, for the sake of variety or simplicity, used negro when non-Caucasian would be more exact.

These figures show that before the war the proportion of children to potential mothers among southern negroes and southern whites was almost the same. They show that the proportion among negroes was higher in 1880 than in 1850 or 1860, suggesting that the negro birth-rate immediately after emancipation and the re-establishment of orderly government was higher than towards the end of the slavery régime. They indicate, also, a notable and surprising fall in the birth-rate between 1880 and 1900. During the same period the proportion of children among southern whites fell steadily, but more slowly, the total decline for the fifty-year period being 128 children for 1,000 non-Caucasian women and 114 children for 1,000 white women. As a result the proportion of white children in the south in 1900 was, for the first time, greater than the proportion of negro children. Still more remarkable is the fact that during the last twenty years of the nineteenth century the decline in the proportion of southern negro children was 160 and that in the proportion of southern white children only 75. The following table shows the States in which the proportion of children is highest or lowest, and those in which the decline has been greatest. For the sake of comparison the figures for whites are added.¹ It will be noticed that the child-bearing age in this table has been defined a little more exactly than was possible from the census data of 1850 and 1860, as 15 to 44 years of age.

¹ Fuller figures on the subject will be found in *Census Bulletin* 8, pp. 68, 291-294.

TABLE IV. *Children under five years of age to 1,000 women, 15 to 44 years of age, by race for the South Atlantic and South Central States: 1880 and 1900.*

Division.	Non-Caucasians.		Whites.		Decrease in twenty years for	
	1880!	1900	1880	1890	Non-Caucasians.	Whites.
South Atlantic	787	630	666	595	157	71
Northern South Atlantic,	695	525	623	542	170	81
Delaware	632	499	516	446	133	70
Maryland	614	483	539	461	131	78
District of Columbia . .	428	254	420	302	174	118
Virginia	762	594	657	591	168	66
West Virginia	699	514	757	649	185	108
Southern South Atlantic,	833	674	713	653	159	60
North Carolina	838	674	703	677	164	26
South Carolina	867	712	714	630	155	84
Georgia	818	663	721	642	156	79
Florida	752	599	718	639	153	70
South Central	799	612	749	659	187	90
Eastern South Central . .	785	598	712	630	187	82
Kentucky	664	454	681	601	210	80
Tennessee	770	544	721	615	226	106
Alabama	792	624	734	680	168	54
Mississippi	843	652	747	675	191	72
Western South Central . .	824	633	813	692	191	121
Louisiana	773	620	680	652	153	28
Arkansas	863	611	845	689	252	156
Indian Territory	?	782	?	731		
Oklahoma	?	631	?	716		
Texas	869	642	853	698	227	155

Table IV. shows that in every southern State the decline in the proportion of negro children between 1880 and 1900 was much greater than the decline in the proportion of white children, and that with both races the proportion was smallest in the border States, and reached a very marked minimum in the District of Columbia. The last fact suggests that the proportion of negro children may be very small in other cities. We have figures on this only for 1890 and 1900. They show that in the entire country, outside the large cities, the proportion of negro children to 1,000 women fell from 672 in 1890 to 651 in 1900, or 21. But the proportion in the cities was 305 in 1890 and 260 in 1900, a decrease of 45. These figures show that the proportion of negro children in cities is about two-fifths of the proportion in country districts,

and has decreased in cities with more than twice the rapidity with which it has decreased in country districts. The following figures compare the proportion and decrease of negro children in southern cities and country districts with the proportion and decrease of white children.

Children under 5 years of age to 1,000 women, 15 to 44 years of age:—

Division.	In cities of 25,000+.				In rest of area.			
	Non-Caucasian.		White.		Non-Caucasian.		White.	
	1890.	1900.	1890.	1900.	1890.	1900.	1890.	1900.
South Atlantic.	311	269	385	365	685	687	627	641
South Central.	331	274	402	384	690	653	693	692

Negro children are much less numerous than white children in the cities of both divisions. They are less numerous in the country districts of the South Central division, but more numerous in the country districts of the South Atlantic. In the large cities of the South Atlantic division the decrease of negro children, 1890 to 1900, was 42 per 1,000 women, that of white children only 20. In the large cities of the South Central division the decrease of negro children was 57 per 1,000 women, that of white children only 18. Outside of these cities in the South Central division the decrease of negro children was 37 to 1,000 women, and of white children only 1. Outside of those cities in the South Atlantic division the increase of negro children was 2 to 1,000 women, and of white children the increase was 14. The growth of cities in the south and the effect of city life upon the birth-rate thus proved to be potent influences, but not the only influences producing the rapid decrease of the negro birth-rate.

Immigration of whites into the south might tend to maintain the birth-rate and the rate of increase of whites, and thus account for the growing disparity between the figures for the two races. This immigration is of two sorts, immigration of foreign-born whites and immigration of whites born in other parts of the United States. The number of foreign-born whites in the southern States, excluding Oklahoma and Indian Territory, was 516,000 in 1890 and 542,000 in 1900, an increase of only 5.0 per cent., while the increase of the whole country was 12.0 per cent. Of the total white population of the southern States in 1890 3.9 per cent. and in 1900 3.4 per cent. were of foreign birth. Immigration of foreign-born whites cannot be a very potent influence in maintaining the birth-rate or the rate of increase of southern whites.

The immigration of foreign-born whites to the southern States is not offset by any appreciable amount of emigration of white natives of the south to foreign countries. But on the part of native whites the currents of migration between the southern States and the rest of the country flow in both directions, and it is necessary to consider the net result or balance. In doing so it is best to exclude Oklahoma and Indian Territory from the southern States. In 1890 there were 1,038,000 white natives of the southern States (excluding Oklahoma and Indian Territory) living in other parts of the country: in 1900 the number had risen to 1,116,000. To offset this current there were, in 1890, 582,000 white natives of the north and west living in the south (still excluding Oklahoma and Indian Territory), and in 1900 there were 725,000. The native white population of the southern States has suffered a net loss by interchange with other parts of the country, but that loss is a decreasing one. In 1890 it was 456,000 and in 1900 it was 391,000.

As the negroes in the south receive very few recruits

from foreign countries, so, also, they receive very few recruits from the north and west. In studying these currents of migration it is necessary to include with the negroes the native Indians and Mongolians, these classes not having been distinguished from the negroes for the birthplace tables at the census of 1890. They were so few relatively as not to distort the figures. In 1890 there were 241,000 non-Caucasian natives of the south living in the north and west, in 1900 there were 349,000. In 1890 there were 22,400 non-Caucasian natives of the north and west living in the south, in 1900 there were 26,500. In 1890 the net loss of southern negroes by emigration to other parts of the country was 218,000, in 1900 it was 323,000. During the decade 1890 to 1900 the net loss of southern whites by emigration to other parts of the country decreased 65,000, and the net loss of southern negroes increased 105,000. The net loss of southern native whites by emigration to each 10,000 native whites residing in the south was 365 in 1890 and 255 in 1900. Corresponding figures for the non-Caucasians in the south were 324 in 1890 and 410 in 1900. The relative loss of the negroes in 1890 was less than that of the whites, but in 1900 it was greater by three-fifths.

The evidence thus far has indicated two of the influences at work in reducing the proportion of children, and probably the birth-rate, of southern negroes much more rapidly than of southern whites. The first is the growth of cities, especially of southern cities, and the powerful and increasing influence they exercise upon their residents, especially their negro residents, in depressing the birth-rate. The second is the decreasing net loss of southern whites and the increasing net loss of southern negroes by the currents of migration between the south and the north and west. So far as one can judge, both of these influences are likely to persist, and even to become more

potent. Indeed, they bid fair to be re-enforced by a third, which has not yet produced a noteworthy effect upon the population of the south,—the increased influx into the south of white immigrants from Europe, especially from southern Europe. The evidence in hand, therefore, meagre as it is, points to a continuance of a proportion of children among southern negroes smaller than among southern whites,—a proportion which was first manifested in 1900,—and probably to an increasing difference in this respect between the two races.

The increase of negro population in the United States is the result, as already stated, of the balance between births and deaths. It has been shown that the proportion of negro children is rapidly decreasing. But, if the proportion of them who die—or, in other words, the *death-rate*—is decreasing as fast or faster, the rate of increase might continue at its present height or even rise. It is important, therefore, to ascertain how the death-rate of the negroes is changing. This rate is known only for the registration area, as it is called; that is, for those States and cities in which the local death records are believed to be accurate enough to deserve consideration. Probably some omissions of deaths occur in nearly all parts of the registration area. Probably these omissions are more numerous in the south than in the north, and in any given place perhaps more numerous among the negroes than among the whites. Still, these figures for deaths in the registration area are the best we have. They are based upon a large non-Caucasian population, 950,000 in 1890 and 1,250,000 in 1900; and the evidence they present, although not beyond challenge, is very weighty. Among 1,000 non-Caucasians in the registration area in 1890 there were 29.9 deaths and in 1900 29.6 deaths. These figures point to a very high death-rate and to a very slight decrease between 1890 and 1900.

The largest body of statistics with which I am familiar, at all comparable with these figures, but indicating the conditions of the negroes at various times and places before the war, may be found in a government document of 1864.¹ The statistics thus collected are for the eleven cities of Boston, New Bedford, Providence, New York, Buffalo, Philadelphia, Baltimore, Washington, Charleston, New Orleans, and Memphis, and for various dates between 1818 and 1863, with the exception of Boston, the figures for which include also the period from 1725 to 1774. Returns from these cities ought to be fairly comparable with those for the registration area of 1890 and 1900, which also was largely northern and urban. The comparison is indicated in the following table:—

TABLE V. *Comparative death-rates of Non-Caucasians and whites before and after the Civil War.*

Authority.	Area covered.	Date.	Population.		Deaths.		Death-rate.	
			Non-Caucasian.	White.	Non-Caucasian.	White.	Non-Caucasian.	White.
Freedmen's Inquiry Commission	11 cities	Various years between 1725 and 1863						
Census . . .	Registration area	1890	3,031,473	37,104,875	106,217	1,001,268	35.0	27.0
Census . . .	Registration area	1900	954,935	18,704,505	28,579	357,653	29.9	19.1
			1,251,409	27,555,800	37,029	475,640	29.6	17.3

¹Thirty-eighth Congress, First Session. Senate Executive Documents No. 53: *Report of the American Freedmen's Inquiry Commission to the Secretary of War*, p. 105. The statistical work of the commission was "greatly aided by Dr. Edward Jarvis, of Boston," one of the most careful and competent students of vital statistics we have ever had in the United States. He "kindly opened to the commission the treasure of his valuable statistical library" and "personally superintended some of the researches." For a reference to this document I am indebted to my friend, Mr. Alfred H. Stone, of Greenville, Miss.

Probably these figures warrant the inferences that the death-rate of each race has greatly decreased in the United States in fifty years, and that the decrease for the negroes has been much less rapid, both absolutely and relatively to the initial amount, than it has for the whites. The death-rate indicated for negroes in 1900 is more than five-sixths (84.6 per cent.) of what it was at the earlier period. That for whites is less than two-thirds (64.1 per cent.) of what it was at the same period. At the earliest date the death-rate of negroes exceeded that of whites by 29.8 per cent. of the lower rate, in 1890 it exceeded the death-rate of whites by 56.5 per cent., and in 1900 by 71.5 per cent. Before the war the difference between the death-rates of negroes and whites was 8.0: in 1900 it was 12.3. Clearly in this field the benefits of progress are accruing more to the white than to the negro race, and the difference between the two races is growing.

In order to get more specific information, the population of each race must be divided into sex and age classes, as in the following table:—

TABLE VI. *Non-Caucasian population and deaths by sex and age in the registration area, 1890 and 1900.*

Age period.	Population.				Deaths.			
	1890.		1900.		1890.		1900.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Under 5	42,312	43,034	50,418	51,990	5,507	5,093	6,413	5,727
5-14	86,389	91,794	98,476	105,988	882	977	910	1,085
15-44	264,999	271,049	358,707	374,415	4,841	4,289	6,743	6,075
45-64	59,324	59,205	88,170	80,932	2,211	1,729	3,407	2,800
65+	10,783	15,845	14,419	19,299	1,274	1,554	1,728	1,935

From the figures in Table VI. the death-rates of the non-Caucasians in the registration area by age and sex may be computed for 1890 and 1900, and the change for the decade estimated. The results are given in the following table, into which the death-rates of whites have been introduced for comparison:—

TABLE VII. *Death-rates by sex and age for non-Caucasian and white population of the registration area, 1890 and 1900.*

Age.	Non-Caucasians:				Whites.				Decennial increase (+) or decrease (—) for			
	Males.		Females.		Males.		Females.		Non-Caucasians.		Caucasians	
	1890.	1900.	1890.	1900.	1890.	1900.	1890.	1900.	Male.	Female.	Male.	Female.
Under 5 .	130.2	127.2	118.4	110.2	68.6	54.2	59.8	45.2	—3.0	—8.2	—14.4	—14.6
5-14 . .	10.2	9.2	10.6	10.2	5.4	4.2	5.4	4.0	—1.0	—0.4	—1.2	—1.4
15-44 . .	18.3	18.8	15.8	16.2	9.9	8.9	8.7	7.7	+0.5	+0.4	—1.0	—1.0
45-64 . .	37.3	38.6	29.2	34.6	23.9	23.5	19.5	19.5	+1.3	+5.4	—0.4	
65+ . .	118.2	119.8	98.1	100.3	80.6	90.4	75.9	82.1	+1.6	+2.2	+9.8	+6.2

The foregoing table indicates that there was a decline in the mortality of negro infants between 1890 and 1900, —a decline, however, less than half that in the mortality of white infants. There was likewise a decline in the death-rate of negro children 5 to 14 years of age, which was about half the decline in the death-rate among white children. But at the ages of early adult life, 15 to 44, the negro death-rate increased and the white decreased; and at the ages of 45 to 64 the negro death-rate increased, while that for white males fell and for white females was unchanged. At ages above 65 the death-rates of each race increased.

The slight improvement in the death-rate of negroes of all ages, between 1890 and 1900, is thus seen to be due to a decided fall in the rate for children and youth, largely

counterbalanced by an increase in the death-rate of adult and aged negroes. Apparently the death-rates of the two races, at ages between 15 and 64, are changing in opposite directions, those for whites decreasing and those for negroes decreasing. The only way of escaping this inference is to claim either that the records of deaths among negroes were kept so much more accurately in 1900 than in 1890 as to convert a real decrease among adults into an apparent increase,—which seems improbable,—or to claim that no inference can be drawn from figures relating to the registration area, 92 per cent. of the negro population of which lives in cities, to the negro population of the entire country. The last objection is weighty. The only answer to it is that we have no other evidence; that these figures, while not conclusive, are indicative, and probably do show the present tendency in a large and increasing fraction of the race. The evidence then indicates a high but rapidly decreasing birth-rate among southern negroes as a whole, a very low and rapidly decreasing birth-rate among urban negroes in all parts of the country, a high and very slowly decreasing death-rate for urban negroes, and an increase in the death-rates of urban negroes at ages above fifteen years.

Owing to the courtesy of the Census Office in furnishing me with certain figures not contained in the published volumes of the Twelfth Census, I am able to add to the preceding data, indicating the absolute and relative decrease of the negro death-rate, the following table, comparing the death-rates of white and negro in 1900 at twenty-four-age periods. To facilitate that comparison a column is added showing the ratio of the non-Caucasian death-rate to the white.

TABLE VIII. *Population, deaths, and death-rates of non-Caucasians and whites by age for the registration area, 1900.*

Age period.	Population.		Deaths.		Death-rate.		Ratio of non-Caucasian death-rate to white = 100.
	Non-Caucasian.	White.	Non-Caucasian.	White.	Non-Caucasian.	White	
Total	1,251,469	27,555,800	37,029	475,640	29.6	17.3	171
Under 5	102,408	2,842,960	12,140	141,431	118.6	49.8	238
Under 1	21,405	596,513	7,951	94,269	371.5	158.0	235
1	19,119	538,083	2,339	25,747	117.1	44.1	265
2	20,943	565,992	1,034	10,986	49.4	19.4	254
3	20,415	573,156	540	7,276	26.9	12.7	212
4	20,526	569,206	367	5,153	17.9	9.1	198
5-9	103,473	2,765,996	1,076	13,969	10.4	5.1	206
10-14	100,991	2,501,331	919	7,666	9.1	3.1	297
15-19	117,304	2,474,869	1,657	11,763	14.1	4.8	297
20-24	160,022	2,683,394	2,671	18,689	16.7	6.9	240
25-29	148,881	2,635,720	2,500	21,436	16.8	8.1	207
30-34	114,723	2,344,469	1,955	21,230	17.0	9.1	188
35-39	108,604	2,107,046	2,083	22,250	19.2	10.6	182
40-44	83,588	1,746,425	1,952	20,334	23.4	11.6	201
45-49	64,002	1,375,102	1,795	20,124	28.1	14.6	192
50-54	51,246	1,158,518	1,750	21,372	34.2	18.5	185
55-59	30,848	885,153	1,374	22,733	44.5	25.7	173
60-64	23,006	721,715	1,288	24,867	56.0	34.5	162
65-69	13,983	518,227	1,027	26,742	73.5	51.6	142
70-74	9,182	355,313	877	26,515	95.5	74.6	128
75-79	5,031	211,350	624	23,293	124.0	110.2	113
80-84	3,036	101,839	408	16,893	164.0	165.9	99
85-89	1,380	35,920	278	8,722	201.5	242.8	83
90-94	572	8,896	162	3,050	283.2	342.9	83
95+	534	2,092	197	903	368.9	431.6	85
Unknown	8,655	69,465	206	1,658	23.8	23.9	100

Table VIII. shows that in the registration area in 1900 the death-rate of negroes was greater than that of whites at each age below 80. The lower death-rate of negroes above 80 years of age indicated by the table is probably due to the large number of elderly negroes who overstate their age to the census enumerators. These errors are undoubtedly more common in the returns of age for the living population than in the returns of age for decedents. Because of them little confidence can be placed in the death-rates at very high ages. At practically all ages under 30 the death-rate of negroes is between twice and three times as great as that of whites: at ages between 30 and 65 the death-rate of negroes is less than twice,

but more than one and one-half times as great as that of whites. The difference between the races seems to reach its maximum at the healthiest period of life, 10 to 20 years of age, when the negro death-rate is about three times that of the whites, and to decrease from that age with advancing years.

The fundamental explanation of the falling birth-rate and almost stationary death-rate, seems to me to lie in a growing competition between negroes and whites, and a decrease in the relative efficiency of negroes compared with whites,—a decrease which is by no means incompatible with an increase in their efficiency when compared with their own standards under slavery or in the early years after emancipation. If such a competition has been in progress, some reflection of it should be found in the statistics of occupations.¹ In those statistics the non-Caucasians were first distinguished in 1890, so that comparisons can be made only for the last decade of the nineteenth century. By confining the figures to the south more satisfactory results are reached, both because that region contains few Indians and Mongolians, and because, if figures for the whole country are used, geographical differences between north and south might be mistaken for racial ones.

There are certain occupations in which the southern negroes have increased proportionately to the whites. Among them we may distinguish several classes.

First are those which make heavy demands upon the muscular system. Workmen in such occupations include miners and quarrymen, 29.7 per cent. of whom in the south in 1890, and 31.5 per cent. in 1900, were negroes; saw and planing mill employees, 41.6 per cent. of whom in 1890, and 46.1 per cent. in 1900, were negroes; and iron and

¹ For detailed figures and a fuller analysis see Census Bulletin 8, *Negroes in the United States*, pp. 52-64 and 164-187.

steel workers, 23.2 per cent. of whom in 1890, and 31.0 per cent. in 1900, were negroes.

A second class includes those occupations requiring little skill, and in many cases followed only in an irregular or casual way. Such occupations are those of servants and waiters, 74.3 per cent. of whom in 1890, and 77.6 per cent. in 1900, were negroes.

A third class is one in which the service is rendered almost entirely to members of the negro race. Examples of these are teachers, 18.3 per cent. negro in 1890 and 19.2 per cent. in 1900; and clergymen, 36.5 per cent. negro in 1890 and 37.5 per cent. in 1900. The supply of negro clergymen relative to the negro population of the south is now greater and increasing more rapidly than the supply of white clergymen. There is a noteworthy difference in this respect between the United States and Cuba, Porto Rico and the Philippine Islands. Cuba and Porto Rico have about the same proportion of negroes as our southern States, but in the two islands in 1899 only 6 negro clergymen were reported, or one in seventy, while in the southern United States more than one clergyman in three is a negro. In this regard the Philippine Islands occupy an intermediate position. With more than 99 per. cent of the population Malay, less than three-fifths of the clergymen in the islands belong to that race.

Those occupations in which the negroes have lost ground at the south since 1890 may likewise be grouped into classes.

One class includes occupations in which persons work without close and constant supervision. This is true of draymen, hackmen, and teamsters, of whom 50.8 per cent. in 1890 and 47.1 per cent. in 1900 were negroes.

Another class includes occupations in which the amount of skill is not indicated by the group name. Here would fall: launderers and laundresses, 93.5 per cent. negroes in

1890 and 91.5 per cent. in 1900; steam railroad employees, 39.5 per cent. negroes in 1890 and 37.6 per cent. in 1900; housekeepers and stewards, 32.4 per cent. negroes in 1890 and 23.2 per cent. in 1900; engineers and firemen, 20.9 per cent. negroes in 1890 and 20.7 per cent. in 1900.

There is also a class of handicrafts which require skill and capital, in which the southern negroes lost ground. Such handicraftsmen include: carpenters, 17.8 per cent. negroes in 1890 and 16.2 per cent. in 1900; blacksmiths, 23.4 per cent. negroes in 1890 and 18.2 per cent. in 1900; barbers, 60.4 per cent. negroes in 1890 and 49.4 per cent. in 1900; fishermen and oystermen, 38.1 per cent. negroes in 1890 and 31.9 per cent. in 1900; tobacco and cigar factory operatives, 49.1 per cent. negroes in 1890 and 44.6 per cent. in 1900.

The preceding figures seem to show that the negro race at the south, in its competition with the whites, lost ground between 1890 and 1900 in the majority of skilled occupations which can be distinguished by aid of the census figures.

Confirmatory evidence may be derived from the figures for cotton-mill operatives. There is no line of expansion in the south more important than the growth of cotton mills. We are told in the special report on that industry that its growth in the south is the one great fact in the history of cotton manufacturing between 1890 and 1900. The number of spindles in the four cotton manufacturing States—North Carolina, South Carolina, Georgia, and Alabama—more than trebled in that decade. But this invasion of the negroes' home by cotton manufacturing has furnished little occupation to the negro. In 1900 the number of cotton-mill operatives reported in the country was 246,000, about one-third of them in the cotton mills of the south; but only a paltry 1,400 were negroes. Cotton manufacturing is far the most important industry in Georgia. The capital invested in it is

double that in any other manufacturing industry of the State. There are more than 1,000,000 negroes in Georgia, yet only 417 are reported as cotton-mill operatives. Doubtless some overflow of the general prosperity has reached the Georgia negroes, but it is only the crumbs that fall from the rich man's table.

A similar movement, beneficial to the south as a whole, but benefiting in the first instance the whites and only indirectly and remotely the negroes, may be traced in southern agriculture. The evidence is not so broad, the statistical induction is less complete; but as corroborative testimony certain aspects of it deserve attention.¹

The acreage sown to rice in the United States more than doubled between 1890 and 1900. Most of this increase has been in Louisiana, which produces about three-fifths of the American crop. The crop of Louisiana is produced mainly in three parishes which contain about two-fifths of the acreage and produce more than two-fifths of the country's yield of rice. The acreage of rice in those three parishes multiplied more than five times between 1890 and 1900. With the development of this great new industry the population of these parishes has made a long stride forward, increasing 57 per cent., or at more than twice the rate of the State as a whole. But the proportion of negroes in those parishes is only about two-fifths of the average in the State, and, while the negro population has increased in the ten years by 6,800, the white population has increased by more than 20,000. The increase of the whites in those three parishes consequent upon the prosperity of the rice industry goes far towards explaining the decrease in the proportion of negroes in the entire State of Louisiana from 50.0 per cent. in 1890 to 47.1 per cent. in 1900.

¹For other evidence on this point see the writer's paper on "Negro Criminality" in *Journal of Social Science*, No. xxxvii. (1899) pp. 82-86.

Factors in this development have been: the discovery of abundant supplies of oil in the vicinity furnishing needed power; the construction of expensive irrigation works; the introduction of varieties of rice from which water can be drawn away towards the end of the season, leaving a firm soil at harvest time; the introduction of modern agricultural machinery, the gang-plough, the horse-drill, the twine-binder, and the steam-thresher. "One harvesting machine," we are told, "operated by one man and five mules, does in one day what formerly required a whole family and hired help to do in a season."¹ White men have come in to manage this machinery, to carry on agriculture by improved methods. They have come from the north, the increase of the natives of the North Central States in Louisiana having been marked in the last ten years. But, doubtless, the most important increase has been among the white natives of that region, who have availed themselves eagerly of the new avenues to prosperity.

It seems inevitable that changes having a similar effect upon the competition of the two races should go on in cotton growing. I may refer briefly to one that is a serious problem now in Texas and a serious menace to the rest of the cotton-growing area of the country, the insect pest known as the cotton boll weevil.

This pest first appeared in Texas in 1892 and in Louisiana in 1903, so that it required about eleven years to cross the largest State and the greatest cotton-growing State in the Union. On the average it extends its field of activity from fifty to sixty miles in each season. The work of the United States Department of Agriculture has not resulted in devising any means of preventing or materially retarding its progress, and the department expert reported in 1903 that "the steady extension of the territory affected

¹ *Twelfth Census*, vol. ix, p. 568.

by the weevil . . . has convinced all observers that it will eventually be distributed all over the cotton belt."¹ The amount of loss already incurred and likely to result from this scourge is entirely uncertain. The census figures for total yield of cotton in 1899 and of the yield per acre do not indicate that the position of Texas as the banner cotton State is endangered. In 1889 she produced less than one-fifth, and in 1899 more than one-fourth of the cotton of the country. The only evidence I have derived from the figures in support of the claim that wide-spread injury has been done is that the yield of cotton per acre in Texas very slightly decreased from 1889 to 1899, while in the rest of the cotton States the average yield per acre was noticeably greater in 1899 than in 1889.

But in any case this pest has rendered cotton a more difficult and uncertain crop. The methods recommended for minimizing the loss are early planting, use of early maturing varieties of seed, and chopping and burning the plants as soon as the weevils have prevented the maturing of more cotton. Energy, ingenuity, and perseverance in surmounting new difficulties are far more characteristic of whites than of negroes. It is well known that a large part of the field work in the cultivation of Texas cotton is done by whites. It seems probable that, when the boll weevil reaches the cotton-growing district of the lower Mississippi, as it is almost certain to do in the next ten years, and finds a region where practically all the cotton growing is done by negro labor, it will bear more hardly upon the yield in that district than it has borne upon the yield in Texas, and that the new pest will contribute in some measure either to decrease the importance of that area as a cotton centre or else to decrease the dominance of negro labor in the cotton fields there. A movement to displace negro labor by immigrant Italian labor in

¹ Department of Agriculture, *Year Book*, 1903, p. 211.

Mississippi and Louisiana has already passed the incipient stages. I may quote a few sentences from a recent article¹ by a cotton planter of that section describing clearly the difference between the two sorts of labor as he knows them. After asserting that the number of Italians engaged in cotton growing along the lower Mississippi, while not large, "is constantly increasing," that the Italian can "produce more cotton on a given acreage than the negro," and "gather a greater percentage of it without outside assistance," and that he "works more constantly than the negro, and, after one or two years' experience, cultivates more intelligently," the writer continues: "From the garden spot which the negro allows to grow up in weeds, the Italian will supply his family from early spring until late fall, and also market enough largely to carry him through the winter. I have seen the ceilings of their houses literally covered with strings of dried butter beans, pepper, okra, and other garden products, while the walls would be hung with corn, sun-cured in the roasting ear stage. In the rear of a well-kept house would be erected a wood-shed, and in it would be seen enough firewood sawed and ready for use to run the family through the winter months. . . . I have seen them make more cotton per acre than the negro on the adjoining cut, gather it from two to four weeks earlier, and then put in the extra time earning money by picking in the negro's field. . . . Handicapped as they are at first by ignorance of the language and ignorance of the cultivation of the plant they raise, still they are becoming property owners, taxpayers, and citizens."

What is true of the Italian immigrant must be still more true of the native American from the north and west, the increase of whom in the south has already been mentioned.

¹ *South Atlantic Quarterly*, vol. iv. (1905) pp. 44-46; *The Italian Cotton Grower: The Negro's Problem*, by Alfred H. Stone.

The conclusion to which I am brought is that relatively to the whites in the south, if not absolutely as measured by any conceivable standard, the negro as a race is losing ground, is being confined more and more to the inferior and less remunerative occupations, and is not sharing proportionately to his numbers in the prosperity of the country as a whole or of the section in which he mainly lives.

How far this is due to racial characteristics, disabling him from effective competition with the rival and dominant race, and how far it is due to economic discrimination against members of the race, the evidence does not indicate. That both of these factors now co-operate in the result seems clear. That the economic discrimination has developed and is maintained, not only for economic reasons, but also in part and perhaps mainly for social and political reasons, seems equally incontestable. How much of it shall be assigned to one and how much to the other influence could be measured only if either occurred without the other.

No reason appears for expecting that the tendencies which I have sought in this article to demonstrate and to explain will soon cease to be controlling. They have set in recently, to be sure, but they seem to be increasing in scope and intensity, and to be likely to continue so to increase. Should they do so, the differences in the rates of growth of the two races at the south are likely to become wider, and the increase of negroes, both absolute and relative, to be slower than any of the foregoing estimates has assumed.

WALTER F. WILLCOX.

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SUGGESTIONS ON THE THEORY OF VALUE.¹

THE endeavor is made in this paper to show that there are two classes of commodities, first-hand and second-hand commodities. For the price of each a special formula is given in place of the general formula of demand and supply.

I.

Many forces are at work on the economic condition of society, but the crops are easily the first in importance. Their influence is so all-pervading that just because they themselves are separated from each other by the interval of a year the consumption and production of any commodity in any one year is clearly distinguished from (but of course not equal to) the consumption and production of the year previous and the year following it. In consequence of this demarcation two classes of commodities can be distinguished:²—

Commodities which are produced for the current period of consumption may be called first-hand commodities.

Commodities which were produced for the consumption of a previous period of consumption and such commodities of the current period as have already gone into the hands of consumers may be called second-hand commodities.

Some well-known examples of second-hand commodities are old statues, paintings, books, wines, coins, and

¹ The writer of this paper, with an obliging disposition to economise space in our columns, has expressed himself with the utmost brevity. His meaning will be none the less clear to those who are conversant with the theoretic questions on which he touches.—THE EDITOR.

² The germ of this distinction is to be found in every part of the theory of price, but only in the theory of interest has its importance been clearly recognised.

furniture. But a hoe manufactured last year, even if still in the hands of the manufacturer, and a hat which a consumer has just bought, are second-hand commodities just as much as the helmet of a mediæval knight.

It follows from these definitions that a commodity the production of which has ceased is a second-hand commodity. A demand which must be satisfied from the stock on hand and entirely excludes a stock to be produced must be considered a demand for a second-hand commodity, for in regard to such demand the production of the commodity has ceased.

Popularly, two periods are distinguished in the life of a second-hand commodity. In the first period its properties are identical with those of first-hand commodities. They enter the second period when time has imparted to them some property which differentiates them from the first-hand commodity. Some second-hand commodities, like diamonds and gold, remain always in the first period; while others, like wearing apparel and wines, enter the second period almost as soon as they emerge as second-hand commodities.

The distinction of these periods is of no importance in the problem of price; but it can be truly said that first-hand commodities are produced by man, while second-hand commodities are created by time.

The sale of a first-hand commodity is a transaction which takes place between a producer and a consumer.

The sale of a second-hand commodity is a transaction which takes place between two consumers.

As mentioned above, a hoe manufactured last year and still in the hands of the manufacturer is a second-hand commodity. A sale of this hoe would apparently be a transaction between a producer and a consumer. But it must be remembered that here, as in every other investigation of price, it is assumed (even if not always ex-

plicitly stated) that the product of a period goes into the hands of consumers within the same period. A producer who for any reason whatsoever retains a part of the production of the current period beyond this period must to that extent be considered a consumer.

II.

It is customary to call the utility of the last unit of a commodity owned the marginal utility. The utility which an additional unit would have to the individual may be called the intensity of desire. In consequence of the law of diminishing utility the intensity of desire is smaller than the marginal utility, and they may differ largely.

Marginal utility measured in money is apparently the consumer's minimum offer. For egoism will prompt the consumer to sell the marginal unit whenever he can get for it more than its marginal utility expressed in money, because he would secure a surplus, and not to sell it for less than this, because he would incur a loss.

Similarly, the intensity of desire expressed in money is the consumer's maximum bid; that is, the highest amount at which he is willing to buy an additional unit.

Between the different consumers of one and the same second-hand commodity exists commercial competition; that is, there exists between them a rivalry based on the knowledge of each other's maximum bids and minimum offers. As long as the maximum bid of any consumer is greater than the minimum offer of another consumer, sales will be made. Ultimately, the stock will be found distributed according to the following formula:—

The whole stock of a second-hand commodity is distributed among the different consumers so that the highest maximum bid is still lower than the lowest minimum offer. ✓

This theorem is self-evident in the form given; but, as

the maximum bids and minimum offers are functions of the stock owned, the price can, with the aid of it, be determined numerically.

It is applicable whether the commodity is "capable of indefinite subdivision"¹ or not. If it is, the marginal utility will become equal to the intensity of desire, and the above theorem then says that the commodity will be distributed among the different consumers so that their marginal utilities measured in money, or, what is the same in this case, their intensities of desire, will be equal to each other. This is the meaning of Jevons's equations, and really the whole of his theory.

The above formula is a counterpart to Gossen's law. The latter states that a (single) consumer will invest his means in several commodities, so that his maximum bids for all the different commodities will be equal. The above formula says that a single commodity will be distributed among the several consumers so that their maximum bids for it will all be equal.

The theorem given is more symmetrical than the formula of demand and supply. The latter induces a belief as if there existed a quantity demanded, distinct and different from the quantity supplied. As a matter of fact, the whole existing quantity of a second-hand commodity is demanded as well as supplied (in the ordinary meaning of these terms). The problem is only to ascertain its division among the different consumers, and the above formula gives the solution.

Most economic phenomena on price show themselves most clearly in the dealings on stock exchanges, and there the formula of demand and supply is never used. The greatest maximum bid and the lowest minimum offer are well

¹ W. S. Jevons, *Theory of Political Economy*, 3d edition, p. 111. See also p. 100. He treats only the special case of commodities capable of indefinite subdivision. Naturally, his equations are not applicable to the more general case of indivisible commodities, and he enumerates himself a great number of instances in which they fail.

recognized as the factors determining the price, and together they form what is called the quotation.

The theorem also determines the distribution of an individual's possession of a commodity into two stocks, capital and private fortune. Each of these stocks has its own maximum bid and minimum offer. For instance, a dealer in shoes distributes his shoes between his business and his private fortune. Occasionally, the maximum bid of the latter is greater than the minimum offer of the former. Some shoes will be transferred from his business to his private fortune, till again the latter's maximum bid becomes smaller than the minimum offer of the former.

III.

The total expense of producing a first-hand commodity may be divided into a general expense and a producing expense. As items constituting the general expense, there may be enumerated cost of management, rents, insurance, depreciation of buildings and machinery, cost of advertising, and interest on the money invested in buildings and machinery.

But in some operations the general expense comprises many more items. For instance, all expenses of a theatrical performance, the wages of the actors included, are general expenses. Practically all expenses of a steamer plying between two points are general expenses. In this case even the expense for fuel and the wages of all people employed are general expenses. Practically the whole expense of running a train regularly between two points is general expense.¹ The expense for fuel, the wages of the engineer, fireman, and brakemen employed on that

¹ Many people do not hesitate to accept theatre and railroad passes, precisely because their producing expense is zero. This, together with the theorem that the general expense does not enter into the determination of price, also explains why passenger rates fluctuate so much less than freight rates.

train, are general expenses. As almost the whole passenger traffic is carried on by trains running regularly between two points, almost all expenses of passenger transportation must be considered general expense.

There is no production the expense of which consists only of producing expense. The general expense is never zero.

Neither the general expense per unit nor the producing expense is the same in two factories. The differences in regard to the first are much smaller than is commonly believed. Theoretically, the larger plant should have a smaller general expense per unit of capacity than the smaller plant; for most of the items enumerated above as comprising the general expense grow smaller per unit, if the capacity increases. But against this must be set the practical necessity in larger plants of making the supervision more thorough and costly. It entails many expenses which are entirely missing in the smaller plant. No general theoretical statement can therefore be made, but experience seems to show that the general expense per unit of capacity has several minima.

There is a certain capacity which just permits the manufacturer a satisfactory personal supervision. This furnishes the lowest minimum. Beyond it he needs the help of managers and other assistants, but the business remains centralized in one place, in one head. Such an organization gives rise to another minimum. Beyond that the organization becomes more complicated: it must be decentralized; and there is a certain capacity which with such an organization makes the general expense per unit a minimum.

In regard to the producing expense, the factory with the larger tools has a great advantage; for an increase in the size of the tools brings about a decrease in the producing expense per unit of capacity.

IV.

First-hand commodities may be divided into two classes, specialties and staples.

A specialty is a commodity which is produced by one producer only. This comprises production under patents and trade-marks, and all cases in which the brand partakes of the nature of a trade-mark.

A staple is a commodity which is produced by two or more producers.

The net income of the manufacturer equals the difference between the gross income and total expense. Each of these three quantities depends on the amount produced. The total expense always increases with the amount produced, but the relation between the latter and the two other quantities is more complex.

The gross income equals the quantity sold multiplied by the price. The quantity produced must in the long run equal the quantity sold. The latter is subject to the law of demand, or, to use the term employed by business men, to the law of consumption. The higher the price, the less will be consumed of a commodity. It follows from this law that the gross income has a maximum. For at the price zero the quantity that can possibly be sold is at its maximum, but the gross income is zero. At a price which is so high that it stops all sales the gross income is again zero. Between zero and the latter price there must be a price which makes the gross income a maximum.

The net income has not necessarily a maximum. As a matter of fact, it may be steadily negative; that is, there may never be a real net income, but a loss. Several cases are possible. If, for every capacity that may be chosen, the cost of production is greater than the price at which this quantity would be consumed, the manu-

facture is unprofitable. In the second case the manufacture yields a net income within certain limits of the capacity. A factory with a capacity of less than the lower limit is said to fail for lack of capital. The factory with a capacity greater than the upper limit may be made profitable by what is called a reduction of capital, but what really is a reduction of capacity. In the third case there is no lower limit, and every factory up to a certain capacity yields a net income.

The manufacturer of a specialty must start from the law of consumption as a predetermined fact. The point which he must decide is the capacity of the plant he desires to erect. After it is ascertained that the specialty comes within the second or third case, he will select that capacity which will make the net income a maximum. It is clear that there is a maximum. For at the capacity zero the net income is negative; that is, there is a loss (equalling the total general expense). Under the supposition made there will be a capacity, beginning from which there will be really a positive net income. Beyond a certain capacity (the upper limit of the second and third case) the net income will again become negative. But, if a quantity is first negative, then positive, and afterwards again negative, it has a maximum.

The capacity which gives the maximum net income is smaller than the capacity which gives the maximum gross income. This may be seen as follows: The net income equals the difference of gross income and expense. In the immediate neighborhood of the capacity giving the maximum gross income, small changes of the former leave the latter practically unchanged, for this is a characteristic property of a maximum. If, then, the capacity increases from a little below that capacity to a little above it, the minuend in the above difference remains practically unchanged, but the subtrahend, the expense, and conse-

quently the net income, continually diminish in that interval. Therefore, the capacity giving maximum gross income cannot be the one giving maximum net income. Beyond that capacity the minuend continually decreases, the subtrahend continually increases, so that the net income continually decreases, and its maximum cannot possibly be in this region. But, as there actually is a maximum, it must be reached before that of the gross income.

There is only one exception to this theorem. In those productions in which all expenses are general expenses, the capacity giving maximum gross income also gives the maximum net income.

V.

The price of a staple will be investigated first under the condition that the cost of production of all producers is the same. The solution of this problem is familiar; but, in order to bring out more fully that the price depends on the relation of producing capacity to consumption, it will be given in the form of the following two theorems:—

If the producing capacity is smaller than the amount which would be consumed at a price equalling cost of production, the price will be raised beyond that cost to such a figure as will make the amount required for consumption at that figure just equal the producing capacity.

If the producing capacity is greater than the amount which would be consumed at a price equalling cost of production, the latter will become the price of the staple.

The law of consumption has been assumed to be a pre-determined factor, known to the manufacturer. But, as a matter of fact, the consumption of many staples is subject to frequent changes. The manufacturer judges the latter from the increase or decrease of his sales. If his daily

sales or orders become larger than his daily capacity, he will raise the price and thus reduce consumption. He will raise it to such a figure as will just permit him to sell his full capacity. He constantly compares the rate of his sales or orders—*i.e.*, the rate of consumption—with his producing capacity.

If the latter is greater than the amount that would be consumed at a price equalling the cost of production, the factories cannot possibly produce their full capacity, for they cannot dispose of it even at cost of production, and they certainly will not manufacture in order to sell below it. Consequently, each factory will produce only a part of its capacity. The manufacturer will now notice what a large share the general expense has in the total expense, and how quickly this share grows, if the factory produces less than the full capacity. He accordingly reduces the price (if it is still high) in order to increase his sales, and the competition with the other manufacturers reduces it to the cost of production.

The rate of consumption in its relation to the producing capacity thus appears as the factor determining the price. The latter will equal the cost of production and will remain equal to it, even when the ratio changes, if it only remains as stated; that is, as long as the consumption is smaller than the capacity. This is seen clearest during so-called bad times, when the price remains equal to the cost, and unchanged even after all indications point to an increased consumption.

If the costs of production of the different manufacturers differ, a producer with a lower cost will underbid a competitor with the higher cost till his capacity is fully employed. The price will equal the highest cost of production which permits the full capacity existing at that cost and below it to go into consumption. If this latter amount is greater than the whole capacity, the price will be raised

to such a figure as will again make the consumption equal to the capacity.

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NOTE ON THE MATHEMATICAL THEORY OF COMPETITION.

Cournot's treatment of competition¹ is based on the assumption that each producer considers his rival's output as constant. This assumption is quite inadmissible, because the quantities sold by them are obviously functions of each other.

Suppose, then, there are two producers. Let their respective sales be s_1 and s_2 , their expense functions $\xi_1(s_1)$ and $\xi_2(s_2)$, their marginal costs

$$e_1 = \frac{d\xi_1(s_1)}{ds_1} \text{ and } e_2 = \frac{d\xi_2(s_2)}{ds_2}.$$

The law of demand or consumption will be given in the form

$$(1) \dots p = f(s),$$

where

$$(2) \dots s = s_1 + s_2.$$

The net incomes are

$$n_1 = s_1 p - \xi_1(s_1),$$

$$n_2 = s_2 p - \xi_2(s_2).$$

They will be maxima if

$$p + s_1 \frac{dp}{ds} \left(1 + \frac{ds_2}{ds_1}\right) - e_1 = 0,$$

$$p + s_2 \frac{dp}{ds} \left(1 + \frac{ds_1}{ds_2}\right) - e_2 = 0.$$

Eliminating $\frac{ds_2}{ds_1}$ from these two equations gives

$$(3) \dots (p - e_1)(p - e_2) + \frac{dp}{ds} [s_1(p - e_2) + s_2(p - e_1)] = 0.$$

In the case of manufacturers e_1 and e_2 are constants. Suppose first they are equal, so that $e_1 = e_2 = e$. Then equation (3) can be written in the form

$$(4) \dots (p - e) \left(p - e + s \frac{dp}{ds}\right) = 0.$$

This equation gives rise to two solutions according as the first or second factor vanishes. The first factor vanishes, if

$$(5) \dots p = e.$$

¹Cournot's *Researches* (translated by Bacon), chaps. vii. and viii.

This is the case of competition. The price equals the cost of production, and s will be found from equation (1); but the equations are insufficient to determine s_1 and s_2 ,—a result fully borne out by experience.

The second solution is based on the equation

$$(6) \dots p - e + s \frac{dp}{ds} = 0.$$

This is the case of a trust. The equation shows that the trust price of a staple is determined from exactly the same equation as determines the price of a specialty. The individual sales s_1 and s_2 can again not be determined from these equations, but from some extraneous considerations,—a result quite in keeping with experience.

The two solutions show that the producers of a staple whose costs are equal must adopt either the cost price or the specialty price. The close relation thus established between competition and trust as two solutions of one and the same equation, and the fact that this equation has only these two solutions, and no more, must be considered an important theorem in itself.

There still remains the investigation of equation (3) in the case that the marginal costs are unequal constants.

Suppose, then, e_1 and e_2 are constants and $e_1 > e_2$. The left side of equation (3) is a positive quantity for $p = 0$; it is still positive for $p = e_2$, but negative for $p = e_1$, and again positive (and infinitely great) for $p = \infty$. From this it follows that one solution of the equation lies between e_1 and e_2 , and the other beyond e_1 . But the first solution is not acceptable to the producer with the cost e_1 , because he cannot remain in business if the price is below his cost (see Article V). The only economically possible solution is, therefore, the second. This means that competition cannot exist between manufacturers of different costs, but that a trust agreement may be maintained between them.

These results are true only if the limits of the respective producing capacities are not reached, as Cournot has already pointed out. If they are reached, competition may exist. The price, then, is determined from the demand function $p = f(c)$, where c is the sum of the capacities of the two producers. But this is again the same price as is got for a specialty, if the capacity of the monopolist is reached.

THE ESTABLISHMENT OF THE GOLD EXCHANGE STANDARD IN THE PHILIPPINES.¹

ON March 2, 1903, the act commonly known as the Philippine Coinage Act, "to establish a standard of value and provide for a coinage system in the Philippine Islands," became law. It was, in its essentials, the embodiment of the plan recommended to Congress by the Taft Philippine Commission in its First Annual Report in 1900, and consistently urged by that body during the two succeeding years. The plan originally proposed by the Commission had later received the support of Mr. Charles A. Conant, who was sent to the Islands in 1901 by the War Department to study the currency situation and assist the Commission in working out a plan of currency reform. The details of the plan adopted by Congress were largely worked out by Mr. Conant. The Commission later received valuable assistance from Professor J. W. Jenks. In August, 1903, the writer came to the Islands to assist the Commission in an advisory capacity in the work of establishing the new currency.

The principal provisions of the Philippine Coinage Act were as follows:—

(1) The establishment of a gold standard with a theoretical gold peso (like the theoretical gold yen of Japan), consisting of twelve and nine-tenths grains of gold, nine-tenths fine, as the unit of value.

(2) The coinage of a silver peso containing four hundred

¹Detailed information concerning the operations of the Philippine government with reference to the new currency during the fiscal year ending June 30, 1904, and for several months thereafter, will be found in the Third Annual Report of the Secretary of Finance and Justice and the First Annual Report of the Chief of the Division of the Currency, both of which are published in the Fifth Annual Report of the Philippine Commission.

and sixteen grains of silver, nine-tenths fine, and of subsidiary coins of proportionate weights¹ and the same fineness, the peso to represent the above-mentioned gold unit of value, or, in other words, to be equal in value to exactly fifty cents of United States money. Minor coins, consisting of a five-centavo nickel piece and a one-centavo and a half-centavo copper piece, had previously been provided for.

(3) The issuance of silver certificates, similar to the gold and silver certificates of the United States, against which silver pesos of an equal value were to be held in reserve.

(4) The establishment of a gold reserve for the maintenance of the parity and for providing funds for the new initial purchases of silver bullion required for the coinage. To this end the act authorized the issuance by the Philippine government of temporary certificates of indebtedness to the amount of ten million dollars, paying 4 per cent. interest, and redeemable in gold coin of the United States at the end of one year.

(5) Gold coins of the United States and the new Philippine silver pesos were made unlimited legal tender for future obligations, "unless otherwise specifically provided by contract." Debts contracted prior to the thirty-first day of December, 1903, were made payable in the legal tender currency existing at the time of the making of the contracts, unless otherwise specifically provided. The new subsidiary coins were made legal tender to the amount of ten pesos. Section 13 of the act removed the legal tender quality, after December 31, 1903, from all other kinds of money circulating in the Islands.

These are the essential points of the currency scheme as laid down by Congress. The details of the plan were to be worked out by the Philippine government.

¹ The ten and twenty centavo pieces contain half a grain less to the peso than the peso piece.

Immediately upon the passage of the act, arrangements were made through the Bureau of Insular Affairs at Washington for the issue and sale of the certificates of indebtedness. Three million dollars of these certificates were sold in March, and a second three million in August. The facts that the certificates were placed upon the market at favorable times, and that the Secretary of the Treasury agreed to accept them as security for the deposit of government funds in national banks, resulted in their being taken up at very favorable rates. The premiums realized, together with the interest obtained upon the proceeds while they were deposited in New York, actually yielded the government a net income on the transaction. To quote the words of Vice-Governor Henry C. Ide, who is largely responsible for the success of the new currency scheme, "These two loans are probably unique in the history of government loans, in that the government has actually made a profit out of its debts." On May 1, 1904, the first series of certificates of indebtedness was renewed for a year, at rates somewhat less favorable than those at which it was originally floated, and on September 1 the second series was renewed under similar conditions. The Commission has declared its intention to pay off one series in May of the present year.

The new Philippine coins began to arrive in Manila from the United States mints in the fore part of June, 1903, and were first placed in circulation on July 23 by means of deposits in certain Manila banks, and of payments for salaries and other government obligations. The parity of the new coins was maintained at first through their redemption on demand at the Philippine Treasury, in United States money, at the rate of one dollar United States currency for two pesos Philippine currency.

On October 10, 1903, the "Philippine Gold Standard Act" was passed by the Commission. It has previously

been noted that the Philippine Coinage Act of Congress left the working out of the details of the new currency system entirely to the discretion of the Philippine Commission. It was to fill in these details and to establish the proper administrative machinery for the inauguration and maintenance of the new system that the Philippine Gold Standard Act was passed. This act placed the new currency upon what is commonly known as the "Gold Exchange Standard." The principal provisions of the act may be briefly summarized as follows:—

(1) The establishment in the Insular Treasury of a separate and trust fund, to be known as the "Gold Standard Fund," this fund to be composed of all the proceeds of the certificates of indebtedness previously referred to, of all seigniorage profits realized in the coinage of the new currency, of all profits from the sale of exchange, and of "all other receipts in the Insular Treasury inuring to the Insular Government in the exercise of its function of furnishing a convenient currency for the Islands." The fund must be used exclusively for the maintenance of the parity of the new currency and the expenses incident thereto, including the purchase of bullion for new coinage, its transportation, mintage, etc. The law provides that part of the fund shall be held in Manila and part in New York.

(2) "For the purpose of facilitating the more efficient discharge of the functions of the Insular Government with respect to the circulation of the currency . . . and for the purpose of maintaining the parity" there was created in the Bureau of the Insular Treasury a division known as the "Division of the Currency," presided over by an officer known as the "Chief of the Division of the Currency."¹

(3) For the maintenance of the parity three forms of

¹ Upon the passing of the Philippine Gold Standard Act, the writer was appointed to the position of the Chief of the Division of the Currency, which he now holds.

redemption were provided in the law, the principal one being mandatory on the part of the government, and the other two incidental and optional: (a) The Insular Treasurer was authorized and directed to sell on demand, for Philippine or United States currency, drafts on the Gold Standard Fund in New York, charging for the same a premium of three-fourths of 1 per cent. for demand drafts and of $1\frac{1}{2}$ per cent. for telegraphic transfers. The depositary of the Gold Standard Fund in New York was likewise directed to sell exchange on the Gold Standard Fund in Manila, charging therefor the same premium rates.¹ (b) On the approval of the Secretary of Finance and Justice the Insular Treasurer was authorized to exchange United States paper currency for Philippine currency and Philippine currency for United States paper currency, at the rate of two pesos Philippine currency for one dollar United States currency. (c) On the approval of the Secretary of Finance and Justice the Insular Treasurer was authorized to exchange for Philippine currency United States gold coin or gold bars, charging for the same a premium sufficient to cover the expenses, at commercial rates, of transporting United States gold coin from New York to Manila.

All money presented to the Insular Treasury for redemption or for the purchase of exchange on New York, pursuant to the above provisions of law, must be immediately withdrawn from circulation and not paid out again except in response to similar counter-demands, or for the purchase of bullion to provide an increase in coinage, or to meet certain minor expenses incidental to the introduction and maintenance of the currency.

Any considerable circulation of gold coin in the Philippines seems at present to be impossible. From May, 1898,

¹ On November 2, 1904, the rates in New York for drafts on the Gold Standard Fund in the Philippines were reduced to three-fourths of 1 per cent. for telegraphic transfers and three-eighths of 1 per cent. for demand drafts.

to September 15, 1901, over ten million dollars in United States gold coin were shipped to the Islands by the military authorities. None, however, is to be seen at this day in trade channels. It has been in part melted down for ornaments, in part hoarded by the natives, and in part shipped to China and other neighboring countries for similar purposes.

The object of the sale of drafts above mentioned is to provide a means for the maintenance of the parity, and, to that end, of automatically adjusting the currency supply to the demands of trade without the necessity of introducing gold coins into circulation; in other words, to create "a gold standard without a gold currency." While the plan is not a new one, it has probably never been attempted elsewhere on as large a scale as at present in the Philippines.¹ The new Philippine currency is capable of performing all the functions of a gold currency except that of being shipped to and from foreign countries in settlement of trade balances. This function of money, or of bullion which is promptly exchangeable for money on demand, is not only important because it is the means by which foreign trade balances are settled when they become unusually heavy in one direction or the other, but it is still more important because it is through the exercise of this function that the currency supply is adjusted to the currency demand, and that its parity is maintained through a reduction in the circulation in times of relative redundancy and its increase in times of relative scarcity.

It is a familiar principle that, when the balance of trade becomes strongly "unfavorable" in gold standard countries, exchange rates advance to the gold export point and gold is exported, and, on the other hand, when the balance of

¹The gold exchange standard was advocated for India by Mr. A. M. Lindsay of the Bank of Bengal in 1898, and is well explained by him in his testimony before the Indian Currency Committee (Part I., sec. 3275 *et seq.*, of the Committee's Report), and in his pamphlet entitled *Ricardo's Exchange Remedy* (London, 1892).

trade becomes strongly "favorable," exchange rates decline to the gold import point and gold is imported. All the expense of shipping the gold, including those of freight, insurance, interest, and abrasion, are borne by the shipper. Under the gold exchange standard, as it exists in the Philippines, the premiums charged by the government in Manila for exchange on New York, and in New York for exchange on Manila, are fixed so as to represent as nearly as possible the actual commercial cost of shipping gold bars between the two cities.¹ When, therefore, exchange rates in Manila on New York reach the gold export point, the actual gold is not exported, as in the United States and other strictly gold standard countries, but the government gives the would-be gold exporter, in exchange for his Philippine currency in Manila, the gold credit in New York, and charges him for the transfer simply the amount the actual exportation of gold bars to New York would have cost him, were he to have exported gold. When, on the other hand, exchange rates in New York on Manila reach the point at which it would be profitable to export United States currency from New York to the Philippines, the authorized agent of the Philippine government in New York gives the would-be currency exporter in New York, in exchange for United States currency paid into the Gold Standard Fund there, Philippine currency laid down in Manila, and charges him in the same manner a premium sufficient to cover the expenses the actual shipment of the currency would otherwise have cost him.

Another method of settling trade balances is rendered possible under the law, in case exchange rates are unfavorable for settling balances with other countries by means of New York exchange, through the provision of

¹ As noted on page 589 the rate charged by the Philippine government's agent in New York for exchange on the Philippines was reduced in November, 1904, below the gold import point for the Philippines. This reduction in rate was to prevent the settlement of trade balances by the shipment of United States paper currency, which can be imported considerably cheaper than could gold bars.

the law authorizing the Treasurer of the Philippine Islands on the approval of the Secretary of Finance and Justice, to sell United States gold coin or gold bars at a premium not greater than sufficient to cover the expenses of shipping gold coin from New York to Manila. A small premium on gold coin and gold bars is necessary in the Philippines to protect the government from the trouble and expense of shipping gold from the United States to Manila, only in turn to have it melted down, hoarded, or shipped to China and other neighboring countries at the slight expense involved in its shipment to those places from Manila.

The exchange by the Insular Treasurer of Philippine currency for the various kinds of United States paper currency, and of the various kinds of United States paper currency for Philippine currency, which the law authorizes, on the approval of the Secretary of Finance and Justice, finds its *raison d'être* in the considerable amounts of United States currency still circulating in the Islands, the existence of many past contracts payable in United States currency, the absence of any Philippine currency notes of large denominations,¹ and the convenience of persons travelling to and from the home land.

United States silver, nickel, and copper coins are not recognized in the Philippine Gold Standard Act. Their circulation in the Islands has been found undesirable because of their liability to be counterfeited, and of the difficulty of readily distinguishing them from similar Philippine coins having but half the value.

A serious problem which early presented itself to the Philippine government was that of the removal of the old currency from circulation. This currency, officially known as "local currency," and popularly known as "Mex.," consisted of: (a) an unknown quantity of Mexican pesos;

¹The Act of Congress approved February 6, 1905, authorizes the issuance of Philippine silver certificates in denominations as high as 500 pesos. The ten-peso certificate is the largest denomination as yet in circulation.

(b) a quantity of Spanish-Filipino half-pesos and small silver coins, roughly estimated at about ten million pesos, which contained about 12 per cent. less fine silver to the peso than the Mexican peso, although circulating at a parity with it; (c) about five and a half million Spanish-Filipino pesos of the coinage of 1897, commonly known as "Alfonsinos," which were imported from Spain just prior to the American occupation, and which contained about 8 per cent. less fine silver than the Mexican peso, although passing current at the same value; (d) a miscellaneous assortment of coins, consisting of old Spanish dollars, many of them dating back into the eighteenth century, Chinese subsidiary coins, and copper coins from nearly every country in the Orient. Here was a circulating medium the great bulk of which had existed in the Islands for generations. It had in its favor all the prestige and prejudice which generations of use can create among an Oriental people. The problem of displacing it by a new and unfamiliar currency would, under any circumstances, have been a difficult one. In this case, however, it was rendered especially so by the fact that the new currency was the dearer one, and the old, being the cheaper, had behind it the tremendous force of self-interest as exemplified in Gresham's familiar law.

The Spanish-Filipino money was, in a peculiar sense, the money of the country, and the Philippine government felt itself morally bound to make careful provision for its redemption. Towards the Mexican currency and the other foreign coins in circulation in the Islands it did not feel the same degree of moral obligation. The importation of these coins had been prohibited from 1877 to August, 1898, and a goodly portion of those in circulation had been illicitly smuggled into the Islands with the connivance of Spanish customs officials. The Mexican dollar, moreover, was an important article of merchandise throughout the

Orient, carried with it its full value in silver bullion, and was thought to be well able to take care of itself.

The bankers of Manila, and a large number of the more prominent business men of the Islands, strongly urged upon the government the redemption of all the old local currency at par in the new Philippine currency. Many arguments were advanced in favor of this plan, the strongest of which were: first, that it would greatly expedite the transition to the new currency and materially reduce the unsettlement of business, which always characterizes such a transition period; and, second, that to the great mass of natives who bought and sold only native produce, and who seldom, if ever, came into contact with gold prices, the new peso would for a long time to come have no more purchasing power than the old, and that to compel these holders of the old currency to exchange it for the new at a discount would involve them in an actual loss.

Despite the force of these arguments there seemed to be insuperable obstacles to the plan of redeeming the old currency at par. The amount of this currency in the Islands was unknown, and estimates varied widely. The redemption of all the local currency at par would have meant the redemption of Mexican pesos above their bullion value and above the values at which they would otherwise have circulated. Subsequent fluctuations of silver have since shown that the prices paid for Mexican dollars would have varied from about 2 to 16 per cent. above their value as bullion. Estimates made at the time showed that it would be necessary for the government to redeem the Spanish-Filipino money at a discount of about 15 per cent. if it were to avoid a net loss in the recoinage of this money into the new currency, to say nothing of realizing any seigniorage profits. It has since proven that the net loss, inclusive of seigniorage, which the government would have suffered by redeeming the Spanish-Filipino currency

at par, would have varied from something like 16 to 30 per cent., according to the variations in the market price of silver. Premiums like those above mentioned on Mexican currency would certainly have led to the illicit smuggling of large quantities of this money into the Islands. The Philippines possess an enormous unprotected coast line, their distance from neighboring countries is small, most of these countries are saturated with Mexican dollars, and the Chinaman is an adept smuggler. The large expense which the redemption of local currency at par would have imposed upon the government, moreover, would have had to be borne by the entire people in the form of increased taxes, while the profits would have been realized not so much by the masses as by the Chinese smugglers and by the wealthier classes of the population in whose hands the bulk of the local currency was held.

The argument advanced, that the Philippine government was under a moral obligation to redeem the old currency at par, did not carry much weight. Ever since the American occupation the Mexican dollar, together with the various kinds of Spanish-Filipino money and other money circulating in the Islands, had fluctuated with the market price of the Mexican dollar in the Oriental markets, and closely in harmony with the fluctuations of the London price of silver. It was difficult to see why the Philippine government was morally bound to redeem a currency at prices varying from 4 to 18 per cent. higher than those at which it had for some time circulated, and would have continued to circulate, had the government not taken measures for its withdrawal.

After a careful study of the situation and consultation with the authorities at Washington, it was unanimously decided by the Commission that the circumstances did not justify the enormous risk and expense which the redemption of the old currency at par would make necessary.

Fortunately for the introduction of the new currency, although unfortunately in every other way for the Islands, the Philippine rice crop for 1903 was almost a complete failure. Over thirty million pesos worth of rice was imported into the Islands during the year, and, largely in consequence of this fact, the balance of trade was strongly against the Islands, and there was during the year a net commercial exportation of over fifteen million Mexican dollars. This outward movement of Mexican currency was, no doubt, somewhat further stimulated by the anticipated and actual introduction of the new currency and the government's declared future policy of discriminating against the old currency. The Philippine Coinage Act of Congress had early in the year declared that local currency would cease to be legal tender in the Islands after December 31, 1903, and had authorized the Philippine government to discontinue receiving it in payment of government dues at any time after that date.

The new Philippine coins began to arrive in Manila from the United States mints in the fore part of June, 1903, and were first placed in circulation, as previously stated, during the latter part of July. Simultaneously with the introduction of the first new coins the Civil Governor issued an order authorizing the Insular Treasurer to exchange the new Philippine currency, at the official rate as fixed from time to time, for local currency with the various provincial treasurers, the cost of transportation to be chargeable to the Insular Government. The order further declared that "all obligations or contracts for labor or materials hereafter executed shall be made payable only in Philippine currency or the legal equivalent thereof in United States currency, at the option of the Government, and all such obligations or contracts now existing, which are payable only in Mexican or local currency, will be readjusted to the new basis as soon as practicable."

The reception given to the new currency by the public was at first not a hearty one. The new peso was no larger than the Mexican peso, upon the basis of which prices had been adjusted for generations; and the Chinese and natives could not see why it should be worth any more. In fact, for some time many of them, under the influence of custom, actually preferred the old pesos with which they were familiar to the new ones, even at the same rate.

During the period from August 1, 1903, until the end of the calendar year, a Philippine peso could be exchanged at the banks or the Chinese exchange shops of Manila at anywhere from one peso and four centavos to one peso and eighteen centavos, local currency. The great majority of merchants and shopkeepers, however, accepted the new pesos simply as the equivalent of the old. It was but natural, therefore, that the old money should be preferred to the new by all persons who had money to spend in the Islands. *It cost less and went as far.* Being the cheaper money, it tended quickly to drive the new money out of circulation on the principle of Gresham's familiar law. Persons receiving the new money from the government promptly exchanged it at the banks and the shops of the Chinese money-changers for the old currency, while they, in turn, presented the new currency to the government for United States currency or the purchase of New York drafts to be shipped out of the Islands in settlement of the heavy unfavorable trade balance existing at the time. Later, when the balance of trade changed, foreign credits thus set up were drawn upon to purchase Mexican currency for importation, thereby creating a system closely akin to that of the "endless chain." Almost as rapidly as the new currency was paid out during August and September it came back to the government through these channels.

The difficulty was partially remedied in Manila by an ordinance passed by the Municipal Board, on the recom-

mendation of the Chief of the Division of the Currency, requiring all merchants in the city to post in their places of business placards stating in the English, Spanish, and Tagalog languages in what currency their prices were fixed, and at what rates they received the various other currencies circulating in Manila. Over seven thousand of these placards, with changeable rate slips attached, were distributed, free of charge, in the city. The result was favorable. The people soon learned at what stores they could get the full value of their Philippine currency. A healthy competition began for the Philippine currency trade. Higgling over exchange rates was reduced, and it was not long before nearly all of the better stores and shops of the city, and many of the poorer ones, were receiving Philippine currency at practically the bank's rates, with the result that the introduction of the new currency in Manila was materially accelerated.

The public and the local newspapers, for some time prior to the end of the year, held the opinion that the death knell of local currency would be sounded when it ceased to be legal tender on December 31. This popular opinion, however, as was to be expected, was soon to receive a rude shock. From the beginning of the calendar year 1903 up to November each month had witnessed a heavy net exportation of local currency from the Islands. In October the net exportations amounted to a million and a half pesos. In November, however, the tide began to turn in the other direction, and between November 1 and February 1 there was a total commercial importation of local currency into the Islands of over a million and a quarter pesos and a net importation of over six hundred thousand pesos. Nearly eight hundred thousand pesos of the new currency were withdrawn from circulation during December alone through the sale of exchange by the government on the Gold Standard Fund in New York, while the month

of December exhibited an actual decrease in the Philippine currency circulation of the Islands of over eighty-two thousand pesos.

The situation at the end of the year was anything but encouraging. The transition period in any currency reform is a period of unsettled business conditions. The Philippines were no exception to this rule, although the policy later adopted by the government, it will soon be shown, reduced the disturbance to a minimum. Business men were anxious to have the transition effected as soon as possible. They were heartily sick of continual exchange fluctuations, of a dual currency, and of the generally unsettled business conditions. The prospect at the end of the year for an indefinite prolongment of these conditions was not a pleasant one. The commercial public, however, dreaded any positive action on the part of the government to put an end to these conditions, much as a patient dreads a surgical operation.

The Philippine Commission, after listening to the arguments of the various commercial interests in the Islands in a number of public sessions,—arguments which were in the main directed towards inducing the Commission to redeem all local currency in the Islands at par, a course many months before definitely decided against,—came to the opinion that the business interests of the Islands would, in the long run, suffer less if some positive action were taken by the government to force the old currency out of circulation with certainty, and a reasonable degree of promptness, than if the existing unsettled conditions were permitted to dawdle along indefinitely. The public, it was reasoned, would continue to use the old currency as long as it was the cheaper one, and could be used at a profit in preference to the new; and the prospects were that this condition of affairs would exist for a long time unless the government should adopt some positive meas-

ures to bring it to an end. A few business concerns could not well transfer their business to the new currency basis unless their competitors would do the same,—in fact, efforts in this direction on the part of several firms had signally failed,—and it was felt that the government alone was in a position to force them all promptly into line.

An act was passed by the Commission December 28, "providing that the salaries of provincial and municipal officers and employees shall be fixed in Philippine currency at the same amounts now allowed by law to be fixed in Mexican currency,¹ and that the assessment, imposition, and collection of taxes, public dues, and impositions now authorized and made payable in Mexican currency shall be made payable in Philippine currency on the basis of one Philippine peso for one Mexican dollar, and that all compensation for insular or provincial officers and employees and all official fees and charges now made by law payable in Mexican currency shall be payable in Philippine currency, on the basis of one Philippine peso for one Mexican dollar" on and after the first of January, 1904.

On January 1 the civil governor issued an order discontinuing the receipt of Mexican currency by the government, and providing for the redemption of Spanish-Filipino currency by the Insular Treasurer and the various provincial treasurers until July 1, 1904, at such official rates as should be fixed from time to time by executive order. The order further directed that Spanish-Filipino currency should be receivable by the government in settlement of all government dues until October 1, after which date it was to cease to be so receivable, and was to be redeemable, at the option of the government, only at its bullion value.

Later in January an arrangement was made by the

¹The term "Mexican currency" as used in this act includes Spanish-Filipino currency as well as Mexican currency proper.

Insular Treasurer with the three Manila banks which act as depositaries of government funds, by which they agreed to withdraw from circulation as far as possible all Spanish-Filipino currency received over their counters, and to repay the government its local currency deposits solely in the form of Spanish-Filipino currency, as long as the latter should be available. Pursuant to this arrangement a resolution was passed by the Commission on January 28, to the effect that, as long as the Treasurer was able to continue this arrangement with the banks, the various provincial treasurers were authorized to "receive Mexican dollars in exchange for Philippine currency at the authorized rate of exchange between Spanish-Filipino coins and Philippine currency, and transmit the coins so received to the Insular Treasury." This measure was continued in effect until July 1, 1904, the date when local currency ceased to be redeemed by the government as money. The arrangement materially assisted the government in withdrawing the Spanish-Filipino coins from circulation, and afforded the public additional means of disposing of their Mexican currency.

On January 14 a law was passed prohibiting the further importation of local currency into the Islands, and on January 28 a supplementary bill was passed imposing an ad valorem tax on contracts or other instruments payable in local currency negotiated after September 30, 1904, and upon local currency bank deposits maintained after December 31, 1904, and exacting a special license tax of all merchants doing business in local currency after the latter date. Numerous exceptions were made in the law for the protection of persons having contracts previously made and payable in local currency, and of persons wishing to dispose of local currency by exportation, sale to the government, or other similar means. Bank deposits were exempted from the tax when maintained for the

purpose of meeting local currency contracts made and properly registered prior to January 1, 1905. Careful provisions were made in the act to assure the equitable adjustment of previously made contracts calling for payment in local currency which should mature when that currency should no longer be available. The taxation provisions of the law did not begin to become operative until October 1, and the law did not come into full effect until January 1, 1905. The public were thus given from eight to eleven months "to set their houses in order."

Immediately upon the passage of the above act an announcement was prepared by the Chief of the Division of the Currency, explaining briefly the provisions of existing laws with reference to local currency, and urging the public to exchange their local currency for the new Philippine currency as rapidly as possible. This announcement was prepared in twenty-one different languages and dialects, and nearly a hundred thousand copies were posted throughout the Islands. It was also widely announced by *bandillo*, or "town criers." A supplementary announcement to the same effect was made in November, about one hundred and twenty thousand copies of which, in the various languages and dialects, were posted throughout the Islands.

On June 30, 1904, pursuant to the executive order previously referred to, the government discontinued the redemption of local currency as money, and on September 30 discontinued receiving it in payment of government dues. On September 29 an executive order was issued directing the Insular Treasurer and each provincial treasurer in the Philippine Islands to purchase Spanish-Filipino coins from October 1, 1904, until January 1, 1905, at their bullion value, said value to be determined from time to time by the Civil Governor. The order further declared that, for the purpose of facilitating "the substitution of Philippine currency for all forms of currency now circulat-

ing in the Philippine Islands, the provisions of this order for the redemption of Spanish-Filipino currency are hereby extended to Mexican currency, Chinese subsidiary silver coins, and all foreign copper coins now circulating in the Philippine Islands, all of which shall be redeemed at the same rates and upon the same conditions as those above provided for Spanish-Filipino money." The provisions of this order have been extended from time to time since January 1, and are still in force. Spanish-Filipino currency, although from 8 to 12 per cent. lighter than Mexican currency, had, prior to the time of the above order, always circulated at par with it. Shortly after the issuance of the order, however, as had been expected, the market values of the two kinds of currencies separated, that of the Mexican currency being thenceforth determined by its value for exportation, and that of the Spanish-Filipino currency by the government's official rate for its purchase as bullion.

Prior to October 1, 1904, contracts to the amount of about 7,500,000 pesos, local currency (exclusive of government accounts), were registered at the office of the Collector of Internal Revenue, and exempted from the payment of the local currency tax. Of this amount nearly 2,000,000 pesos represented bank deposits, and about 3,500,000 pesos insurance policies payable in local currency. The total number of exemptions issued was 684.

Contrary to the almost unanimous expectation of local bankers and business men, the law providing for the taxation of local currency transactions proved a remarkable success. The dates upon which the various taxes imposed by the law were to become effective were so far distant that the law had little immediate effect. The bulk of the Islands' business continued as before to be transacted in local currency. From January 28, the date of the passage of the local currency taxation act, until the latter part of

June, the value of the Mexican dollar in Manila, as measured by sterling exchange rates, was for over four-fifths of the time above the value of its silver content in London, and above the value of Hongkong currency. During the latter part of April, May, and the fore part of June, the differences in these values were marked, the local value varying during most of this period between 7 and 9 per cent. above bullion value, and about the same amount above sterling exchange rates in Hongkong. About the fore part of June, however, business men began in earnest to adjust their affairs to the law, and it was surprising to every one to see in how short a time the adjustment was accomplished, and with what comparatively little disturbance to business. There never was a better example of the adage, "to be forewarned is to be forearmed." From June 9 to June 15 sterling exchange rates in Manila declined nearly $5\frac{1}{2}$ per cent.,—a variation great in itself, but not at all uncommon in silver standard countries,—whereas in Hongkong the decline during the same period was less than one-third of 1 per cent. The London price of silver for both dates was the same. This decline was the first sign of any important influence upon exchange rates exerted by the taxation measures which were soon to go into effect. Sterling exchange rates in Manila, nevertheless, continued above the rates in Hongkong until about the 2d of July. It was not until the 27th of June that the value of the Mexican dollar in Manila fell below the value of its silver content in London. From January to June the net commercial exportations of local currency from the Islands were but 171,000 pesos, in April and May they were but 2,100 pesos, in June 55,000 pesos. In July, however, they increased to 837,000 pesos, and for the remainder of the calendar year they amounted to over 5,000,000 pesos. About the middle of June the members of the Manila Chamber of Commerce passed resolutions in favor of trans-

ferring their businesses to a Philippine currency basis on the 1st of July, and the Chinese Chamber of Commerce shortly afterwards adopted similar resolutions. By the latter part of July the banks had practically discontinued making forward exchange contracts in local currency, and comparatively few ready transactions in that currency were then being made. Before August 1 it can safely be said the great bulk of the foreign exchange business of the Islands had been transferred to the new currency basis. Between August 31 and December 31 the total local currency current-account credit balances of the five Manila banks (exclusive of government balances) fell from 1,814,474 pesos to 729 pesos. By September 30, the date upon which the taxation of local currency transactions began to become effective, the greater part of the larger trade of the Islands was being carried on in Philippine currency, and the same was true of the better class of retail trade. The small transactions of the Chinese and native shops and of the markets still continued to be almost entirely in local currency.

With the beginning of the new year the Collector of Internal Revenue, in whose hands the administration of the local currency taxation law was placed, issued circulars to his deputies throughout the Islands, enjoining the rigid enforcement of the law. The circulation of local currency among the small tradespeople quickly ceased: thousands of natives and Chinese flocked to the Insular Treasury and the various provincial treasuries for the exchange of their old currency. The exchanges made by the government during December, January, and February, amounted to several millions of pesos, a large proportion of which was composed of subsidiary and minor coins, the denominations naturally the last to be presented for redemption.

On February 2 of the present year (1905) the Collector of Internal Revenue sent a circular letter to all the provincial treasurers in the Islands, inquiring to what extent local

currency was being used in the business of the respective provinces, and to what extent it was being held for speculative purposes. Reports received from thirty-four provinces showed that in all but three provinces local currency had practically ceased to be used except to a small extent in a few of the more remote parts of the interior, and that almost none was being held for speculative purposes. Of the three provinces excepted, the estimated circulation in two of them was but 135,000 pesos, while for the third one, a remote province of little commercial importance, no estimate was made. The amounts of local currency at present being presented for redemption are very small, and it is only a matter of a short time before the petty amounts yet outstanding in the remote sections of the Islands will have been entirely withdrawn from circulation. Local currency is no longer a factor in the trade of the Islands. Only three persons have to this date been prosecuted for the infraction of the local currency taxation law, and all three cases were of minor importance.

An important question to be asked in connection with any currency reform is, What was its effect upon prices? Unfortunately, the absence of any carefully prepared price statistics in the Philippines renders a safe judgment upon this question with reference to the recent currency reform impossible. What evidence there is seems to show that the immediate tendency of the change was to give the new peso no higher purchasing power as regards retail prices and wages than the old, and thus to increase prices and wages, as measured in gold values, by the difference between the value of the new monetary unit and that of the old.¹ This tendency apparently did not apply to anything like the same extent in the case of wholesale prices, with reference to which competition was much keener. Under the

¹ In this respect the experience of the Philippines seems to have been similar to the recent experience of Porto Rico under somewhat analogous conditions.

Mexican currency régime the purchasing power of the Mexican peso in local retail trade was not to any extent altered by fluctuations in the value of its fine silver content. A Mexican peso would ordinarily purchase as much in the local retail markets when its bullion value was forty cents, United States currency, as when it was forty-five or fifty cents. It has previously been noted that at the beginning the new peso was generally accepted by local tradesmen only at the same value as the old. As the new money worked its way into more general circulation, however, merchants in Manila and other cities of the Islands came more and more to allow a premium on the new currency, varying in amount up to the banks' purchasing rate for the same as a maximum. Later, when the bulk of the money in circulation came to be the new money, prices seem to have been quite generally transferred from the old currency to the new without any material alterations, and in that case local currency, when received at all, was received at a discount. It should be added, moreover, that, at the time this influence was making itself felt in the direction of an advance in prices and wages, the general tendency of local prices appears to have been downward.

Any discussion concerning the establishment of the new currency would be incomplete that did not make mention of the valuable assistance rendered the Philippine government from the beginning by the War Department and the Treasury Department at Washington, speaking of which Vice-Governor Henry C. Ide said in his last Annual Report as Secretary of Finance and Justice: "The Treasury Department of the United States has in every way co-operated with the work to be accomplished, not only by facilitating the transfer of funds from the Insular depositories in the United States to the Insular depositories in the Philippine Islands and the reverse, but likewise by a most prompt and efficient aid in the mintage of the new

coins and in the work of engraving and printing the silver certificates. . . . In all steps taken for the sale of certificates of indebtedness, for the purchase of silver for coinage, the arrangement of interest on the deposit of Gold Standard Funds in New York, looking after the details of coinage and shipment of coin, the efforts of Colonel Clarence R. Edwards, U.S.A., Chief of the Bureau of Insular Affairs, War Department, have been most constant, and his services have been of great value to the Insular Government."

The results accomplished may be briefly summarized as follows: From August 1, 1903, until April 1, 1905, there was a net exportation of local currency from the Islands amounting to approximately 26,000,000 pesos,¹ about 12,000,000 of which were commercial exportations, and 14,000,000 government shipments for the purpose of recoinage. The new currency, as previously stated, began to be placed in circulation the latter part of July, 1903. The circulation, as estimated by the Chief of the Division of the Currency at the end of each quarter since the passage of the Gold Standard Act, has been as follows:—

	<i>Pesos.</i>
December 31, 1903	3,910,000
March 31, 1904	7,402,000
June 30, 1904	9,057,000
September 30, 1904	14,254,000
December 31, 1904	20,765,524
March 31, 1905	27,045,000 ²

By April 1, local currency had been practically eliminated from circulation, and the Islands were firmly es-

¹ From January 1, 1903, to August 1, 1903, there was a net commercial exportation of about 11,400,000 pesos. The first shipment of local currency by the government for recoinage was made in November, 1903.

² The note issue of the Banco Español Filipino, amounting to between a million and a half and two million pesos, was during the same period transferred to a Philippine currency basis.

tablished upon a gold basis. In other words, with the exception of the United States currency in circulation, the entire currency of the country was transformed in a little over a year and a half's time, and that without serious derangement of business and with no greater disturbance to prices than frequently occurred under the pre-existing silver standard as the result of fluctuations in the price of silver.

E. W. KEMMERER.

MANILA, P.I.

WOOL-GROWING AND THE TARIFF SINCE 1890.

THE rumblings heard now and again from different sections of the country, with ever-increasing force, seem to portend the not distant breaking of the storm which brings a revision of the tariff. In these recurrent disturbances the wool and woollens schedule has of late come to be the storm centre. The years since 1890 have witnessed the most varied changes in this schedule, and this same period has practically brought to an end that great movement for the opening up and settling of the West which has been such a dominating factor in the economic history of the country, and especially so in the industry of wool-growing. The time is thus opportune for a review of wool-growing and the effect of the tariff during that period, with the object of learning what we can from this past experience that may be of help in the future.

During the 80's the price of wool underwent a considerable fall. In 1883 a tariff act was passed slightly lowering the duties on wool. The growers ascribed the decline to this act, raised a great outcry against it, and in the McKinley Act of 1890 secured what was practically a restoration of the former duties. The decline in price, however, was much greater than could be accounted for by the Act of 1883, and, as a similar decline abroad indicated, was due in fact to the great rapidity with which the world's production, especially in Australia and South America, was then increasing.¹ In the United States the number of sheep² had increased very rapidly between

¹For an extended account of the period 1867-93 see "The Duties on Wool and Woollens," by Professor Taussig, in the October, 1893, number of this Journal.

²Throughout this article stress is laid on the number of sheep rather than the product of wool, as, the latter being a by-product, the sheep is necessarily the basis of the industry.

1872 and 1884, but during the years following declined. The McKinley Act, it was hoped, would restore to the wool-growers the prosperity enjoyed under the Act of 1867, and replace this decline by growth.

But the years immediately following 1890 brought a gradual steady decline in the price of wool till the spring of 1893. Then with the panic of that year there came a sudden drop. The business depression following, together with Cleveland's election and the talk about free wool, only accentuated the decline, which continued until the Wilson Bill put wool on the free list. During these years London prices, though not participating in the drop incident to the panic and the free-wool scare, were also on the down grade, the world's production being on a rapid increase. The imports of raw wool under the McKinley Act continued to rise, although under the specific duty the lower price made the equivalent ad valorem rate higher than ever. On the other hand, the value of the manufactures of wool imported underwent a marked decline, much greater than could be accounted for merely by the lower price of the raw material. Yet, in spite of the lower price of wool and the increased imports, the number of sheep in the country rose.

The Wilson Bill passed August 1, 1894, and, putting wool on the free list, went into effect as regards wool on the 28th of that month, as regards the manufactures of wool on January 1, 1895. The price of wool was very little affected when the act became law, the fall having been discounted by its expected passage and the general business depression. Prices fluctuated at a low level till the fall of 1896, though abroad the increased American demand led, at first, to a rise. The world's production of wool reached the highest point ever known in 1895, since which date the output has fallen off under the destruction caused among the flocks of Australia by the

drougths. The imports of raw wool naturally rose to phenomenal heights, averaging 262 million pounds a year from 1895 to 1897. The imports of woollen goods were fairly heavy, averaging 47 million dollars in value in 1895-97, though this was not quite as high as for the years 1888-90. In the United States, from 1893 to 1897, the number of sheep rapidly declined.

In the Dingley Bill, which was passed July 24, 1897, the duties of the Act of 1890 were restored, that on carpet wool becoming specific in form and slightly higher. Under this stimulus the price of wool in this country rose rapidly during 1897, and thereafter, until the rise beginning last year (1904), fluctuated at a level somewhat below that before 1893, except for a sharp ascent and decline in the latter part of 1899, chiefly due to the feared scarcity of merino wool and a speculative movement which had its rise in Europe.¹ The fluctuations in price in this country, excepting the rise in 1897 on the restoration of the tariff have closely followed those on the other side of the Atlantic. The world's wool production during this period has been virtually stationary, hovering around the amount reached a little before 1895. Under the Dingley Act the imports of raw wool have shown a steady though not rapid increase, and one to be found in all three classes. The imports of manufactures of wool, on the other hand, have been most remarkably small, lower in value, in fact, than for a great many years. In the United States the flocks of sheep began to multiply, following the restoration

¹The speculative side of dealings in futures is, in the case of wool, a comparatively new one. Because of the difficulty in establishing uniform grades of wool and classifying the fleece, dealing in futures has been much less common with wool than with many commodities. These difficulties have, in a measure, been overcome by taking for the basis of sale what is known as wool tops, this being wool scoured, combed, and graded so as to be ready for spinning to a given number of yarn. In the last of 1899 the great bulk of the sales in the top markets on the Continent, mainly at Roubaix, assumed a character purely speculative. The price movements abroad at this time were reflected in a modified form in the United States. For some further account see the *Bulletin of the National Association of Wool Manufacturers*, vol. xxx. pp. 374-377, and vol. xxxi. pp. 289-314.

of the duty on wool, and this continued up to 1902, since when there has been a decline.

At the present time, then, we find that the number of sheep in the country is smaller than when the period commenced, while the falling off in the flocks since the high-water mark was reached in 1884 is nearly one-quarter. The amount of wool grown, however, owing to the improvement of the fleece and changes in the breeds of sheep, has declined but slightly. On the other hand, although the importation of wool in the form of manufactures is less, yet the raw wool imports are higher than ever before (barring the brief period of free wool); and this although the ad valorem equivalent of the duty is the highest we have known. That the tariff has not accomplished what was hoped by the wool-growers is certain. Evidently another and more powerful force or combination of forces has exerted an even stronger influence. In order, then, that we may learn what these opposing forces are, and judge of the real ability of the tariff to aid this industry, let us turn to a more detailed and critical study of the situation.

For the price of wool the world's production is, of course, a factor of the first importance. Below is given a table¹ showing the average annual product of wool of the various divisions for the period 1880-89, and then for each year since. The most noticeable feature is that the year 1895 marks the culmination of a continued and rapid rise in the wool product of the world, and that since then it has remained practically stationary. As the fall in the price of wool, which took place after 1880, was due to this increased

¹From the *Wool Circulars* of Helmuth, Schwartze & Co., of London. The figures for the United Kingdom and the Continent are for washed wool, the others for wool in the grease. The figures for North America give the product of the United States plus 13 million pounds for the Canadian supply. The figures for the Continent exclude the Balkan Peninsula.

PRODUCTION OF WOOL IN THE GREASE.
MILLIONS OF POUNDS.

	United King- dom.	Conti- nent.	North America.	Austral- asia.	Cape.	River Plate.	Others.	Total.
1880-89.	135	450	319	395	64	313	130	1807
1890 . .	138	450	322	511	91	272	160	1944
1891 . .	148	450	320	592	102	330	179	2121
1892 . .	153	450	346	644	88	369	175	2225
1893 . .	151	450	361	632	91	360	164	2209
1894 . .	142	450	338	659	73	376	174	2212
1895 . .	135	450	307	730	84	439	197	2342
1896 . .	136	450	285	646	96	464	186	2263
1897 . .	139	450	272	660	83	496	204	2304
1898 . .	139	450	280	608	96	513	181	2267
1899 . .	140	450	285	593	92	520	181	2261
1900 . .	141	450	301	514	46	398	175	2025
1901 . .	138	450	316	600	73	532	143	2252
1902 . .	136	450	329	579	83	493	170	2240
1903 . .	133	450	300	512	80	517	203	2195

supply, so this failure to advance will help to explain the fairly stationary prices which have until recently ruled the London market. The cause of this retrograde movement was the severe droughts experienced in Australia, beginning in 1895. The year 1892 found 106 million sheep in Australia; by 1903 the number had been cut down to 54 million.¹ The most severe losses came in the seasons 1894-95 and 1901-02, and fell heaviest upon New South Wales. The flocks are now again on the increase, but the general opinion seems to be that under the present conditions there is little prospect of their rising, at the best, much above the former level. This gap in the Australian output has been, in a measure, offset by the advance which has simultaneously taken place in the supply from the River Plate, where the average annual output increased from 341 million pounds for the years 1890-94 to 492 million for the years 1899-1903. Apparently, it was only the increased production in this quarter which prevented a serious shortage in the world's

¹ Figures from the *Annual Wool Reports* of Helmuth, Schwartz & Co. New Zealand did not suffer during these years, the number of sheep there, at the two dates given, being 18 million and 19 million, respectively.

supply. A result of this recent falling off has been that the demand, which for some time had been lagging behind the supply, has been given a chance to catch up; and, unless a further supply is forthcoming, higher prices will prevail.¹

The more immediate bearing of the world's production on the United States is best indicated by a study of the wool imported. The average annual imports of wool of each class under successive tariffs are as follows, in millions of pounds:²—

	<i>Class I.</i>	<i>Class II.</i>	<i>Class III.</i>
1884-90	20	6	75
1891-93	40	5	99
1895-97	141	21	117
1900-04	41	8	100

The wool of Class I. corresponds roughly to the wool grown in this country. At one time wool of the first class was used for woollens only, and that of the second for worsteds; but now the wool of the former can generally be used for either. The tremendous increase in the imports of Class I. wool under the Wilson Bill, though of course greater than if this were the normal state of the tariff, indicates that it is this class which feels the duty most and with which the wool-growers of this country have to compete. If an analysis of the imports of this class be made by countries of production, it reveals a striking increase during the last few years in that coming from Uruguay and Argentine Republic. For 1884-90 the

¹ The rapid rise in price which began last summer seems to be explained in this way. It is probable that the present (June, 1905) high quotations will before long bring about such an increase in the supply as to cause another fall, though whether it would drop to the former low level is doubtful. A continuance of the present prices would certainly result in a falling off in the demand.

² A few grades of wool were transferred from Class III. to Class I. by the Act of 1897. In most comparisons, under the Dingley tariff, a period beginning two or three years after the act went into force is taken, as the enormous imports of the free-wool period required some time to be worked off. The fiscal year 1891 includes three months under the previous tariff. The imports of Class I. wool for 1902-04 averaged 50 million pounds.

annual importations hence averaged 4 million pounds, while for the years 1900-04 they were nearly 17 million. Under the McKinley Act the average was even less than during the previous years. The change came with the period of free wool, and was due to several causes,—partly to the better chance then given our manufacturers to test this wool, partly to the great improvement which has taken place in the wool grown in these regions, and in a measure, also, to the increased demand for coarser goods, making possible the use of this wool to supplement the diminished Australian supply. Australia is the only other country from which we import any quantity of Class I. wool, the average annual imports for 1884-90 being 12 million pounds, for 1891-93 34 million, and for 1900-04 falling to 24 million.

The imports of Class II., or "combing" wool, which also competes with our domestic product, are comparatively slight, though it is significant that during the régime of free wool the increase here was relatively greater than in any other class. Almost all of this wool comes from the United Kingdom, the class being made up of wool from the English breeds of sheep. Aside from Turkey, no other country sends any supply worth mentioning. The rise in the imports of late is due to the preference for coarse goods, for which the wools of these breeds are best adapted.

The wools of Class III., or "carpet wools," do not compete with much wool grown in this country. Physically, it is perfectly possible to grow such wool here. But it is not grown, because a better quality can be obtained at almost the same cost. During the free-wool period, unlike the other classes, there was but a slight advance in the imports of this class, seeming to indicate that the duty (4 cents a pound, if valued at 12 cents or less, 7 cents, if above that) is but a slight barrier,—practically, a

duty for revenue. The largest producers of our imports in this class are China and Russia, with the United Kingdom not far behind, and Turkey, Argentina, and the British East Indies no mean competitors. The more noticeable change to be seen is the rapid increase in the supply coming from China, and also, of late, from the United Kingdom. The imports from China rose from an average of 4 million during the years 1884-90 to 21 million for the period 1900-04; for the United Kingdom the figures were 10 million and 17 million respectively.

This summary indicates that the most dangerous rivals of our wool-growers are to be found in Australia and Argentina. Eventually, perhaps, some of the countries now growing only carpet wool may improve their product; and there are still regions, notably Central Asia, to which we can look for a large increase in the supply of carpet wool. As for the immediate future, Australia, as we have seen, is not likely to become any more dangerous a competitor than she has been, and the most serious prospective rival is to be found in Argentina. This country now grows as much wool as Australia, yet most of the sheep are to be found in one province, Buenos Ayres. The number in that province will very probably decline as cultivation increases, but there are still vast areas to the south and west which seem to offer excellent prospects for the extension of this industry, and for the American wool-grower a most threatening rivalry.

Another change of importance that has taken place in the last few years is the decline in the supply of the fine merino wool, this having been replaced by the medium grades of wool from the cross-bred sheep. The movement seems to have had its start with the rise of the frozen mutton trade, which began about 1882 on a small scale in both Australasia and Argentina. The decline which the price of wool was then undergoing gave it an

added impulse, especially as the decline was not as great in the medium grades of wool grown on the mutton sheep as in the finer wool of the pure merino.¹ Wool sank so low that the growers gladly turned to raising mutton sheep as a method for securing additional income from their flocks. Rams of the various English breeds were imported and crossed on their merino ewes, the offspring generally proving acceptable as mutton and bearing the cross-bred wool, finer than that of the pure bred English sheep, but coarser than the pure merino. Since 1890, especially since 1895, the supply of this grade has begun to assume great proportions. More than once the prospective scarcity of merino wool has, as in 1899, seriously alarmed the market. In 1889, of the total imports of wool into Europe and North America from the British Colonies and the River Plate, 17.2 per cent. (on the clean wool basis) was cross-bred wool. In 1895 it was 31.7 per cent., and by 1904 the proportion had risen to 51.8 per cent.² The main increase in this supply has come in the output from the River Plate, where at present this grade makes up about 80 per cent. of the total. Nearly all of the Australasian cross-bred wool comes from New Zealand, the conditions there being more favorable for mutton sheep, and it does not as yet form any considerable portion of the clip from Australia.³ The full significance of this will be understood when it is remembered that the clip of these two countries represents fully one half of the world's wool supply. This change in the

¹From 1878 on, almost without exception, Ohio medium wool has ranged in price above Ohio fine. See quotations of Manger & Avery in the *Statistical Abstract of the United States*.

²From the *Annual Wool Reviews* of Helmuth, Schwartz & Co. A part of this increased percentage is due to the effect of the droughts on the output of Australia, which now makes up the greater part of the merino.

³For the years 1902-04 the average annual quantity of Australasian wool catalogued in London was 861,000 bales, of which 402,000 bales were cross-bred, and of this 344,000 came from New Zealand.

quality of the product of their chief competitors might have been of some relief to the wool-growers of this country, had not similar circumstances, to be considered later, brought about a corresponding change here. Formerly both were growing merino wool. Now they all give more attention to cross-bred, and the relative situation remains the same.

The extent to which our wool-grower is protected against the foreign wools by the tariff duties is a question often asked, but most difficult to answer. Ordinarily, the mere fact that a commodity is imported and the duty paid is taken as evidence that the price of the article in this country is raised to the full extent of the duty. This, however, presupposes that the article produced here and that imported are identical in quality. Yet it would be difficult to find another article which varies in so many respects as do different clips of wool. Fineness, elasticity, length, and strength of the fibre, working quality, and shrinkage, all enter into the question. Each separate fleece even may be sorted into six or eight different grades. It is obvious that under the circumstances the effects of a system of duties like ours are not simple or easily analyzed.

The chief complications have been caused by the varying shrinkage of wool in the process of washing and scouring, and by the practice of skirting the fleece. It was partly because of its heavy shrinkage that the South American wool was for a long time practically prohibited by the tariff; and it is generally agreed that no Australian wool is imported into this country that shrinks much more than 52 per cent.¹ Similar wool in this coun-

¹"American purchasers are confined to wools of the lightest shrinkage on account of the duty, and these purchases will not average to shrink more than 50 to 53 per cent. . . . The condition of Ohio wool has been growing heavier of late years, correspondingly decreasing the yield when scoured, while the Australian wools have as steadily improved in condition." Letter of Mauger & Avery, of Boston, in *Aldrich Report. Senate Reports*, 2d Session, 52d Congress, vol. iii., Part I., pp. 384-388. See also *House Document* 338, 54th Congress, 2d Session, p. 1366.

try, unwashed, shrinks from 60 to 80 per cent., perhaps averaging 66 per cent. Other things equal, what a manufacturer is willing to pay for his wool is of course determined by the amount of clean wool he obtains from it. Clearly, the American buyer can afford to pay more for Australian wool shrinking 52 per cent. than he can for otherwise similar American wool shrinking over 60 per cent., or even Ohio fine washed shrinking 55 per cent. Thus the duty of 11 or 12 cents a pound on these Australian wools (the improvement in the Argentina wools has frequently secured a similar result there) does not give protection of an equal amount to the American product.¹

A similar effect comes from the practice known as skirting the fleece, resorted to in both Australia and South America, though heretofore more complained of in the case of the former. As has already been stated, the wool found on a single fleece varies considerably both in fineness and shrinkage. In skirting the fleece, the coarser wool and that having the most dirt, such as comes from the belly, breech, and legs, is cut off, leaving simply the best and cleanest part of the fleece. Here, again, the manufacturer will gladly pay more for a foreign fleece improved in this manner than for an otherwise similar American fleece. A well-known American buyer says: "I know of no class of wool grown in the United States, which is sold in the fleece, that does not need 2 cents per pound added to the price paid in the fleece to make it equal to all Australian wool and all New Zealand wool and most of the English and Irish wools as they come to market.

¹Probably the possible gain is somewhat neutralized by centering the demand of the American buyers upon these low-shrinkage wools, thus slightly raising their price.

The duty on wool of Class I. that has been washed is doubled, and on that which has been scoured is tripled. Wool of Class II. that has been scoured is also subject to triple duty. These surcharges are so heavy that practically no wool is imported under them.

It takes the above 2 cents a pound to make our wool equal in condition as wool before estimating shrinkage."¹ Further indication that this practice acts as a loophole is found in the attitude of the manufacturers toward what is known as the "skirting clause" of the tariff, which makes particular exception for skirted wool in admitting it at the same rate of duty as unskirted.² They secured the insertion of this clause in the McKinley Act. Through their efforts it was retained in the Dingley Act also, in spite of the vigorous protests of the growers, who asked for a duty of at least 3 cents a pound additional on such

¹ Letter of the late Mr. Joseph Walworth, for forty-two years buyer of the Pacific Mills, Lawrence, Mass. He adds for illustration an actual transaction, showing how an American wool, selling in Boston at 20 cents at the same time that a similar grade of South American was selling there at 21 cents, duty paid, actually cost per scoured pound 7 cents more than the latter. *Bulletin of the National Association of Wool Manufacturers*, vol. xxxi. p. 381.

On this point the late Judge Lawrence, formerly president of the Wool-growers' Association, said, "Australian merino unwashed, as heretofore imported, will sell from 5 to 7 cents a pound more than our Ohio washed merino, because of the less shrinkage of the foreign wool and the value added to it in the skirting, and because of the special demand for a soft wool of that particular lustre, which, however, adds nothing to its utility, but, nevertheless, subtracts from the protective benefit of the wool tariff, leaving the protective benefit of a tariff of 12 cents a pound at less than 7 cents in competition with skirted Australian unwashed merino." *House Document* 338, 54th Congress, 2d Session, p. 1358. An estimate made by Mauger & Avery, based on the prices of 1891, showed that Ohio washed wool was enhanced, because of the duties and charges, 11½ cents. A similar estimate, based on the quotations of July 1, 1893, showed the price to be raised but 6 cents. *Bulletin of the National Association of Wool Manufacturers*, vol. xxiii. pp. 252-263. It is evident that only an estimate covering a period of several years could be at all satisfactory.

For further references as to skirting, see *Bulletin of the National Association of Wool Manufacturers*, vol. xxvii. pp. 127-132, 155-162, 282-288. *Tariff Hearings*, *House Document* 338, 54th Congress, 2d Session, pp. 1374-1378, 1588-1596; *Senate Miscellaneous Document* 35, 53d Congress, 2d Session, pp. 325-326; *Senate Miscellaneous Document* 17, 54th Congress, 2d Session, p. 36.

² The text of this clause (Section 383) in the Act of 1890 is suggestive, and runs as follows:—

"The duty upon wool of the sheep or hair of the camel, goat, alpaca, and other like animals, which shall be imported in any other than ordinary condition, or which shall be changed in its character or condition, for the purpose of evading the duty, or which shall be reduced in value by admixture of dirt or any other foreign substance, or which has been sorted or increased in value by the rejection of any part of the original fleece, shall be twice the duty to which it would otherwise be subject: Provided that skirted wools as now imported are hereby excepted." *United States Statutes at Large*, vol. xxvi. p. 595.

wool. Here, again, there can be little doubt that the growers fail to obtain the full benefit of the nominal duty.

Attempts have been made to throw some light on this subject by a comparison of prices here and abroad, and the period of free wool has given an added opportunity to secure data; but the results have been, at best, unsatisfactory. To find two clips of wool that are exactly alike has proved practically impossible. Those most frequently compared have been Ohio fine washed and Port Phillip (Australian) average grease. Even here the latter will probably sell in a free market a bit higher than the Ohio wool, because of its softer character. During the free-wool period this Australian product sold in London at a price sometimes a little below, sometimes a little above, the Boston price of the American wool; but at that time the market conditions in this country were abnormal. If we leave out the period of free wool, the quotations show for the period since 1890 a difference between prices for these two grades of wool varying from 3 to 11 cents, the general average being about 8 or 9 cents. The duty, it will be remembered, is on Class I. (clothing wool) 11 cents, on Class II. (combing wool) 12 cents.

All grades of our domestic wool fell in price together and to practically the same extent during the events which led to the repeal of the duty on wool; and on its reimposition they all rose again. There is little evidence that there is now any important grade of our domestic clip of which the supply is so large as to depress the price below the possible limits of the protective duties. We import nearly all grades of wool. While they do not exactly correspond in all respects to our own wools, one being a bit better for this purpose and the other for that, it is improbable, with the advance that has been made in adapting wools to varied uses, that the difference in quality

between any important grade of domestic and at least some grade of foreign wool would be so great as to stand seriously or permanently in the way of one competing with the other.

It thus appears that, while the difference between the price of the most important competing wools here and abroad is less than can be accounted for if the tariff protects to the full extent of the duty, there is little reason to believe, in view of the character of our imports, that this failure of the domestic wool to advance in price is caused by any pressure of competition at home. Other causes seem sufficient to explain this discrepancy. It is reasonable to conclude that, because of the better condition in which the wool of our only really serious competitors comes to market, the specific weight duties do not, indeed, raise the price of American wool by the nominal amount of the duty, but that the price is raised, under normal market conditions, to the full amount of the protection possible and actually given by these duties. To that extent the wool-growers do benefit by the tariff.

Another form of competition which the wool-grower of this country has to face—one the importance of which he himself has perhaps not always fully realized—is the importation of wool in the form of manufactured goods. This is especially worthy of attention now because of the remarkable change which has occurred, as is indicated by the following table, in the period under review:—

	<i>Average annual value of the imports of man- ufactures of wool.</i>	<i>Average rate of duty paid.</i>	<i>Estimated average annual amount of wool imported in the form of manufactures of wool.</i>
1884-90 .	\$45 million	67 per cent.	135 million pounds
1891-93 .	38 "	91 " "	114 " "
1895-97 .	47 "	49 " "	141 " "
1900-04 .	17 "	92 " "	51 " "

The amount of wool imported in the form of manufactures of wool can only be estimated in a very rough manner, but, accepting the generally used basis of 3 pounds of wool to the dollar in value, we find such a drop under the present tariff as can be of no slight importance to the wool-grower. The full weight of this change is better realized when it is stated that in only two years since 1850 (1862 and 1894) have the imports of manufactures of wool been so low in value as they have every year since the Dingley Bill went into force. Or, continuing our calculations on the above basis, up to the year in which the McKinley Bill went into operation there had been but three years (1863, 1880, and 1886) since the records began in 1822 when the imports of raw wool exceeded the imports of wool in the form of manufactures, whereas in every year since (except 1894) the case has been exactly the reverse.¹

This change is so notable as to deserve more detailed inquiry as to its cause. It is a point of some significance that on the question of excluding manufactures of wool the interests of both the wool-grower and the wool manufacturer, usually so diverse, happen to coincide. The growers have at times opposed higher duties on woollen goods, but only to force from the manufacturers the concession of higher rates on the raw product, not because they would not have been satisfied to exclude these goods. The manufacturers, on the other hand, generally admit that in being deprived of free wool they suffer under a handicap, perhaps better realized now than ever before.² Apparently, they only consent to duties on wool (though

¹ Some allowance should properly be made for the higher price of wool and the more expensive methods of manufacture of the earlier years; but this does not seem sufficient to seriously detract from the general significance of this statement. Furthermore, this explanation would have much weight only if we go back for a long period, while the decline has been comparatively recent.

² See the manufacturers' *Bulletin*, vol. xxvii. pp. 122-127, 234.

some declare for free wool in any case) because of political necessity, fearing that, unless this were granted, they could not obtain protection for their own product. The growers have evidently felt that they could safely leave the care of protecting woollen goods to the manufacturers, and certainly the results have entirely justified their expectation.

That the decline in imports, as we may most naturally suppose, is due to heavier protection, further examination seems to substantiate. After the enactment of the tariff of 1890 the duties paid on the imports of manufactures of wool showed higher ad valorem rates, and the total value of these imports fell off somewhat. Under the present law the duties paid indicate the same level of rates as under the Act of 1890; yet the amount of these goods imported, as shown not only by the value, but by the quantity (where such comparison is possible), has undergone a very sudden drop when compared with the figures under the Act of 1883, as well as with those under the McKinley Act. Thus in the two classes of goods where by far the greater share of this decline occurred, at least as regards the absolute amount, we have the following:—

	<i>Average annual imports of cloths.</i>		<i>Average annual imports of women's dress goods.</i>	
	<i>Pounds.</i>	<i>Dollars.</i>	<i>Pounds.</i>	<i>Dollars.</i>
1891-93 . . .	14 million	13 million	82 million	17 million
1900-04 . . .	4 million	4 million	33 million	6 million

There was also a decrease in nearly all the other classes, the only instance of any considerable increase being under "carpets," in this case apparently in the class of Oriental rugs. Heavier protection has been secured in some instances by higher rates of duty, but probably with more effect by adopting new dividing points in the valuation and by changes in classification; with the result that what little foreign competition remains has been shifted to a

grade of goods even higher than before. Undoubtedly, the American manufacturers learned much during the period of free wool, from obtaining a better acquaintance with foreign wools, as well as from the necessity of meeting more severe competition from abroad, and are now better prepared to cope with their European rivals than formerly. But it is equally certain, as they themselves readily admit,¹ that the Dingley Bill affords them greater protection than any previous tariff.

The actual effect of these duties on manufactured goods upon the grower deserves a little closer attention. When the present system of duties was adopted in 1867, the specific weight duties on goods were supposed to compensate the manufacturers for the duty on their raw material. It was then estimated that, allowing for a shrinkage of 66 $\frac{2}{3}$ per cent. in the wool and the loss in the process of manufacture, it took 4 pounds of raw wool to make 1 pound of cloth. The compensatory weight duties were adjusted accordingly, and on the supposition that the price of wool was raised to the full extent of the duty. Here, it may at first appear, the wool-grower benefits to the full extent of the duty; and so he probably does, as far as the imports of goods are concerned. But, on further consideration, it is clear (even if we grant that the estimate of 4 pounds of wool to 1 pound of cloth is not generally excessive) that, just so long as the duties on raw wool do not actually protect to the full amount of the tariff, these full protecting duties on the manufactures are unable to

¹ In the September, 1897, issue of their *Bulletin*, Mr. S. N. D. North, then secretary of the National Association of Wool Manufacturers, wrote: "So far as the most critical examination can now detect, there is no weak spot in the woollen schedule. . . . Our belief is that it will be found in practical operation to be the most perfect woollen schedule which has ever been enacted." That these hopes have come true is indicated in an address by the same gentleman before this association, though no longer its secretary, this winter, when he said: "The present wool and woollens schedule, whatever its defects, is, on the whole, as satisfactory to the wool-grower and to wool manufacturer alike as any that has ever been enacted. . . . So long as the wool and woollen schedule remains as it is, you are safe." See their *Bulletin*, vol. xxxv. pp. 46, 47.

give a particle of additional aid. The manufacturer may gain, but not the grower; for ere the price of domestic wool rises to the full extent, as estimated for the compensating duty, the former will turn abroad for his raw material.

The actual extent of the competition which the tariff permits of, so far as that can be determined by the amount of foreign wool imported, is shown by the following table:—

(IN MILLIONS OF POUNDS.)

	<i>Average net imports of wool. Class I. and II.¹</i>	<i>Average imports of wool in form of manufactures.</i>	<i>Total average imports of competing wools, raw and manufactured.</i>	<i>Average domestic wool supply.</i>
1884-90 . . .	26	135	161	321
1891-93 . . .	45	114	159	329
1895-97 . . .	153	141	294	272
1900-04 . . .	52	51	103	297

These figures show that, although the imports of raw wool of the grades competing with our own have been advancing in spite of the duties, yet, when we take into account the amount imported in the form of manufactured goods, the total shows a falling off as compared with that which prevailed under either the tariff of 1883 or that of 1890. We now manufacture a greater proportion of the foreign wool consumed in this country than formerly, but the total amount consumed has rather decreased; and, although the American product does not advance, yet it is easily holding its own against the foreign invader.²

¹As the carpet wool does not seriously compete with our domestic wool, it is omitted. Similarly, a portion of that coming in as manufactures might be excluded, but the amount is so small as to be negligible. The figures for the domestic production are the estimates of Mr. Lynch, Mr. Truitt, and the manufacturers' Bulletin.

²That it will continue to hold its own much longer is doubtful. Certainly, if the domestic supply is not increased, we shall have to go abroad for wool. This is just what is being done now under the pressure of high prices. The imports of Class I. and II. wools for the first ten months of 1905 (103 million pounds) are greater than for any previous complete year when under a duty.

The net result of this review of the competition from abroad since 1890 leads us to believe that the tariff has increased the price of domestic wool as far as possible, though not to the extent of the nominal duty, and that the consumption of foreign wool, aside from the free-wool period, has remained about stationary. Let us now see how the wool-growing industry of the United States has fared under this aid.

In studying the economic history of wool-growing, probably the most striking feature which characterizes it is the large number and the complexity of the factors entering into the problem. Wool is the economist's classic example of a by-product; and one who picks up a textbook on the subject will learn that the grower has to consider the price of the other products of the sheep to determine the price at which he can sell his wool or whether he can keep sheep at all. In many cases, however, this proves to be but a small part of the problem, for the raising of sheep is frequently but a by-product in the industry of general farming. Here there at once arise before us a most intricate mass of interdependent factors, all of which must be taken into account by the farmer in determining the size of his flock. This calculation must then include not only the cost and selling price of wool, lamb, and mutton, but also that of wheat, corn, beef, pork, butter, cheese, and various other farm products. Wherever land can be put to numerous uses, these questions arise, and in studying the economic history of any product of agriculture one must constantly bear in mind the great complexity of the problem.

Under these circumstances it is clear that any satisfactory view of the industry of wool-growing in this country will require that the regions where agricultural con-

ditions are very dissimilar be treated separately. For the purposes of the present cursory survey we may divide the country into two divisions, one embracing the region to the north of the cotton belt and to the east of the arid districts of western Kansas, Nebraska, and the Dakotas, the other stretching westward from these districts to the Pacific coast ranges, and extending from the northern boundary of the country to the southern. The former includes what was once the great wool-growing district of the land, the latter the centre of the industry to-day.¹

About 1870, except the sheep in California and New Mexico and scattering flocks in the South, practically all the sheep of the country were in the eastern region. In the Atlantic coast States a decline had set in after 1840, and during the 50's signs of a similar tendency appeared in the States to the north of the Ohio River. The stimulus given during the Civil War and the period of inflated prices produced a remarkable but unstable growth, and about 1870 the decline was renewed. The opening up of the western area, and the increasing wool production from there and abroad, led to a lower range of prices, beginning about 1880. It has already been shown how abroad this fall helped to start the movement toward mutton sheep; and similar results were brought about here, at least where sheep were not abandoned altogether. But the latter case proved the more general, and by 1890 the industry in this eastern region was on a slow but steady decline.

On the passage of the McKinley Bill the hopes of the farmers in this section revived, as is shown by the increase

¹ The South has paid but scant attention to sheep, if we except the ephemeral flocks of Texas. The physical conditions seem favorable; and many efforts have been made to induce the people of this region to try the experiment, but without permanent result. Other crops attract their attention, and the ever-present cur is a most serious obstacle.

in their flocks;¹ yet the rise was but slight, and in many States did not even last through the year 1892, while 1893 brought a marked falling off all around. During the reign of free wool the flocks of the region experienced a decline of about two-fifths. Then ensued a slight rise until 1902, since when the tendency has been once more downward. But the most striking fact of all, one surely

¹THE NUMBER OF SHEEP, 1890-1904 (00,000 OMITTED).

	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
New England . . .	12	12	12	9	7	6	6	5
Middle Atlantic . . .	27	27	28	33	29	23	19	17
South . . .	76	78	78	76	66	60	54	49
North Central . . .	102	104	110	124	107	92	74	65
Middle West . . .	27	26	31	37	35	30	28	26
United States . . .	443	434	449	472	435	399	364	347

	1898.	1899.	1900.	1901.	1902.	1903.	1904.
New England	5	5	5	5	5	5	5
Middle Atlantic	17	17	17	18	20	16	16
South	46	42	41	43	34	33	34
North Central	65	68	69	74	79	67	62
Middle West	27	28	28	32	30	31	29
United States	356	369	402	419	421	392	383

These figures are taken from the *Bulletin* of the wool manufacturers.

For the years 1890-93 they are the same as those of the Department of Agriculture. Except for these years and 1901, when they are for January 1, they give the number on April 1. About one and one-half million of the decline between 1893 and 1894 is due to this change. The North Central States included Ohio, Indiana, Illinois, Wisconsin, Michigan, West Virginia, and Kentucky,—the wool-growing centre of the East. The South includes Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Texas, Arkansas, and Tennessee; the Middle West, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, and Indian Territory.

The estimates of the Department of Agriculture for the years since 1900 appear erroneous. At the time it was announced that the figures for 1901 were withheld pending revision when the census returns came in. The census showed 40 million sheep and 21 million lambs, or a total of sheep and lambs of 61 million. When the Department of Agriculture published its delayed estimate for January 1, 1901, the figures showed 59 million sheep,—an increase of nearly 18 million over their figures for 1900, and of 19 million over the census returns for seven months previous. This is incredible. Other available data fail to substantiate it, and certainly there was no such increase in the domestic wool supply as this would entail. The most obvious explanation is that the figures of the department, through some error, included lambs as well as sheep. The sharp decline in their estimates for the last two years may be an attempt to rectify this.

embodying an important lesson, is that in the New England, Middle Atlantic, North Central, and Southern States, as here grouped, there are now, after eight years under the duties of the Dingley tariff, fewer sheep than at any time throughout the period when wool was admitted free!

The point upon which most of the explanation for this phenomenon hangs is that nearly all of the land in this region that had been used for sheep could be used for other purposes as well. *It was not land which was pre-eminently fitted for sheep and little else.* Some idea of what were these other things to which the farmer has turned may be gathered from the following table, which covers all the important wool-growing States of this section:—

PERCENTAGE OF INCREASE OR DECREASE OF FARM PRODUCTS, ETC., 1890-1900. COUNTIES WITH FIFTY OR MORE SHEEP PER SQUARE MILE IN 1890

	Sheep.	Dairy cows.	Im-proved land.	Total farm area.	Wheat acre-age.	Corn acre-age.	Oats acre-age.	Hay and forage acreage.
Ohio	36—	2+	10—	3+	35+	23+	6—	1—
Michigan . .	39—	5+	8+	5+	19+	31+	15—	6+
Indiana . . .	19—	4+	7+	5+	3—	25—	13—	2—
West Virginia	45—	11+	13+	8—	12—	9—	53—	5—
Kentucky . .	19—	3—	4+	2—	44+	26—	70—	19+
Pennsylvania	41—	8—	1—	2—	23+	12—	8—	3—
New York . .	36—	8—	2+	3—	27+	34+	13+	5+
Vermont . .	51—	22+	25+	8+	78—	35+	30—	3+

COUNTIES WITH LESS THAN FIFTY SHEEP PER SQUARE MILE IN 1890.

	Sheep.	Dairy cows.	Im-proved land.	Total farm area.	Wheat acre-age.	Corn acre-age.	Oats acre-age.	Hay and forage acreage.
Ohio	21—	5+	17+	8+	53+	16+	14—	3+
Michigan . .	12+	40+	50+	44+	61+	134+	12+	16+
Indiana . . .	6—	3—	11—	1+	14—	25—	7—	6+
West Virginia	13—	8+	24+	2+	33+	26+	43—	6+
Kentucky . .	27—	1—	20+	3—	65+	14+	48—	2—
Pennsylvania	40—	10+	10+	6+	14+	19+	11—	2—
New York . .	34—	4+	4—	3+	10+	33+	14—	5—
Vermont . .	39—	15+	15—	7+	79—	52+	27—	10+

1 Less than 1 per cent. decline or increase.

These tables, based on the census, show that the total farm area increased in every case but one, though in Pennsylvania, New York, and Vermont the improved land declined or failed to increase as rapidly. Apparently, farming was not on the decline. In every case but one¹ the number of sheep fell off, and the losses were, as a rule, proportionately greater in the sheep counties. From this it seems reasonable to infer that, where the sheep were the most numerous, the flocks presumably the largest, and the industry specialized in, there sheep-raising proved more unprofitable than where the flocks were smaller and had been kept as incidental to general farming. In the sheep counties in every case, and in the others in every case but two, there was an increase in the number of dairy cows. Moreover, this increase was proportionately greater in those very counties where the losses of sheep were the heaviest,—certainly strong presumptive evidence that it was the dairy business which was driving out wool-growing, especially when we remember that in these States most of the land used for the one purpose is, as a rule, as well suited for the other. But the dairy is not the only rival, for the figures give, in every instance, a considerable rise in the corn acreage, and in every State but Vermont a similar tendency towards wheat. The hay and forage area has remained fairly stationary. The absolute figures would show that a small part of the extension of the wheat and corn acreage could be accounted for by the decrease in oats, and still more by the increase of that portion of the improved land which had been included in or replaced by a part of the new farm area. Yet, when allowance is made for the amount of the improved land which is turned to still other purposes, the figures would seem to show (and general observation

¹ These counties represent an abnormal condition, including as they do the northern part of Michigan, which was undergoing a rapid development at the time.

bears this out) that some of this land has been diverted from the use of sheep.¹ The causes leading to these changes are most instructive.

The years when wool was free happened to be unusually trying ones for the farmer, as well as for industry in general.² Nearly all farm products were low in price, wool and mutton naturally suffering most. It was then that the possibilities in the raising of other farm products were most vividly brought to the notice of the wool-grower, for almost anything seemed to pay better than sheep. Cattle and dairy produce suffered less than other farm products in the general drop in prices, and so, where the conditions were favorable, the farmer naturally turned to these. Such, for instance, seems to have been the case in Vermont, eastern New York, south-eastern Ohio, West Virginia, and Wisconsin. On the other hand, where the soil offered better opportunities for cultivation, he turned to grains. In western New York, northern Ohio, and Kentucky it was to wheat, while in the belt extending westward from Ohio it was to corn, accompanied by the feeding of stock, notably hogs, and frequently also by the dairy. But when the period of distress had passed over, and the Dingley tariff sent forth its warming beams of protection to revive the stricken industry, the response of the Eastern wool-grower was but faint. Some increased their flocks again, but have since given them up. Still more seemed content to let the change remain permanent. They had learned the lesson. It had taken a long time, and the blow which finally brought conviction proved a costly one; but it was learned, and well learned.

¹ In the case of wheat, at least, it is perfectly possible for both sheep and wheat to increase together; but here there is no indication that such was the case.

² The index numbers for farm products for the years 1894-97 were 95.9, 93.3, 78.3, and 85.2, respectively, 100 being the average for 1890-1899. For this and other prices for this period, see *Bulletin of the Department of Labor*, March, 1903, p. 245.

The burden of that lesson was that times had changed, and economic conditions were different. There *had been* a time when the conditions in the region centring about Ohio were admirably adapted for the industry of growing wool. As early as 1855 there were some indications that these conditions were passing away; but then came the abnormal and artificial stimulus during and following the Civil War, and the real state of affairs was hidden from view. Thereafter the situation grew worse, while the wool-grower battled against his impending fate; but, when the truth was so sharply revealed to him by the period of free wool, he at last became convinced. In this revelation he saw that, as the means of communication and transportation had improved, and new regions had been opened up and developed, there had appeared, both here and abroad, lands *economically* better fitted for this industry than his, while, on the other hand, his own acres were well adapted to the raising of other commodities in the production of which these new lands were unable to compete. In effect, the change was a step in advance towards a better and more nearly world-wide division of labor.

In this division of labor, as it now appears arranged, there are other things for which this section of the United States is economically better fitted than the growing of wool. Pre-eminent among these is the raising of corn. The great corn belt of our country stretches from central Ohio westward to eastern Nebraska, including a part of Kansas and northern Missouri. Probably no other region of equal area on the earth is so well fitted, both by climate and soil, for the raising of corn as is this. Along with the corn there naturally goes the feeding of stock, especially cattle and hogs, and the closely related dairy. May we not predict that the more immediate future growth of this belt will be along these lines? In those parts better

sued for wheat they are at present able to compete with the world, though their relative advantage does not seem as great as in the case of corn. The future here is perhaps less certain, but that sheep will play any prominent part in it seems unlikely.¹ In the districts unsuited for the plough the outlook for the sheep is not much better. Sheep can be kept where dairy animals cannot. The pasture here will keep either. So long as there are many other regions which support the dairy animal only with difficulty or not at all, the chances are that in the competition between the two for the better pasture of the East the sheep will be worsted. Further, the dairy secures an additional hold on these Eastern lands because it has more to gain from being near the centres of population than has the sheep industry. We are thus led to believe that the industry of growing wool in this section of the country as an independent industry is doomed. At present there is little prospect here for the sheep, except as an incidental part of general farming. The general farmer can easily keep a small band (though it must be mainly for mutton and lamb), as it entails almost no serious additional expense, and helps to improve his fields, while making use of much that would otherwise be wasted. As the grain fields become less fertile and farming becomes more diversified, the opportunity for the flock of sheep along this line may be greater; but, to find the industry carried on separately and with any independence, we must look elsewhere.

The real wool-growing section of the United States at the present time is to be found in that district, previously outlined, which lies in the Far West. Here alone has there been any progress in this industry during the years since 1890; and it is here alone, if anywhere in this country,

¹Small flocks of sheep are frequently kept in connection with wheat, but they are incidental, and their purpose is to raise mutton and improve the land rather than to grow wool.

that the business of growing wool can have any future as an independent pursuit. For it was not until this region was opened that the wool-grower at last found a place where he could feel fairly secure before the ever-advancing march of cultivation which had driven him nearly across the continent from the Atlantic and was threatening to make a like attack from the side of the Pacific. Here he first reached soil upon which the cultivator could not trespass,—land too arid for farming, yet suitable for sheep.

This vast area had hardly been entered by the wool-grower until after the completion of the Union Pacific Railroad in 1869. Conditions here were very unlike those in the East, the sheep being on ranges instead of farms, and most of the first flocks coming into the region being brought to supply mutton, not wool. There had been, from the first, some neglected bands of sheep in New Mexico and southern California, but they did not spread until the opening of the various mines—gold, silver, lead, and copper—created a great demand for mutton. Later, when the railroads opened up the interior region, it rapidly developed as a centre for wool-growing. The early growth came in the central and southern tiers of States, this section having contained such original flocks as there were, as well as the mines first worked and the first railroads. The more northern States—Wyoming, Montana, Idaho, and eastern Washington and Oregon—did not become prominent in wool-growing until later. Although they made a good start in the decade following 1880 (the Northern Pacific was completed in 1883), yet it was not until after that period that the greatest growth took place,—a growth which has been the most striking feature in the recent history of wool-growing in this country.

The trend of events in the different districts of this

section, as illustrated by the table below,¹ shows that, beginning with 1890, the flocks in the southern section were declining, under the McKinley Act as well as the Wilson Bill, while in the north a rapid advance was taking place,—an advance so determined that even the terrors of free wool could not check it. In fact, beginning with April 1, 1894, and ending April 1, 1897, there appears to have been a gain in the number of sheep in Idaho every year, and in Montana, Arizona, Nevada, Wyoming, and Colorado in every year but one. All of these end the period with more sheep than they started with,²—a result which leads one to wonder as to the necessity of a protective tariff for the wool-grower of those States. On the reimposition of the duty the advance became more rapid, and in Montana, Idaho, and Wyoming assumed phenomenal proportions; but by 1902 the maximum had been reached, the flocks

¹THE NUMBER OF SHEEP IN WESTERN STATES, 1890-1904
(00,000 OMITTED).

	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
Northern Rocky Mountain	34	36	37	44	46	47	52	57
Southern Rocky Mountain	83	80	78	72	70	73	70	70
Pacific Coast	76	68	72	74	70	64	59	56

	1898.	1899.	1900.	1901.	1902.	1903.	1904.
Northern Rocky Mountain . .	63	75	90	109	121	116	116
Southern Rocky Mountain . .	73	80	97	91	85	80	76
Pacific Coast	57	51	50	43	42	41	41

See note to corresponding table for the East, *infra*, p. 630.

The Northern Rocky Mountain States include Idaho, Wyoming, and Montana; the Southern Rocky Mountain States, Nevada, Utah, Colorado, Arizona, and New Mexico.

²This statement is based on the figures of the wool manufacturers' *Bulletin*. According to the estimates of the Department of Agriculture there was a gain every year from January 1, 1894, to January 1, 1898, in Montana, Arizona, Nevada, Wyoming, Colorado, and Idaho. See its *Year Books*.

in the region to the south having previously fallen off, and the decline then became general.

The chief reason for the stationary or declining conditions of very recent years seems to be that the range, under the present conditions, has about reached its capacity. That there is a great deal of unnecessary waste of the free range is certain,¹ and less extravagant methods would enable a considerable increase in the flocks; but, on the other hand, there are many factors tending to counteract this. The policy of establishing forest reserves, so rapidly pushed by the government of late, has considerably reduced the range area, though it is hoped arrangements can be made such as will give the flock-owner greater freedom in the use of these restricted parts. There has also been an increased tendency on the part of individuals or companies to buy up large tracts, or at least such water rights as secure a practical control of large tracts; and here, again, the free grazing lands are cut down. While this involves additional expense, it also will secure greater economy in the use of the pasturage, but probably will tell more in favor of the cattlemen.² Then, of course, there are a large number of comparatively small strips which it has been found possible to cultivate, the number being increased as the irrigation systems are extended. Frequently, however, these prove a boon to the wool-grower, for the crop enables him to enlarge his flock. Here alfalfa has been found especially valuable, growing readily in these lands, and being excellent for feeding sheep. Again, the good work done by the Department of Agriculture in introducing new plants suited to this dry region further encroaches upon the wool-grower's

¹ See the *Bulletin of the National Association of Wool Manufacturers*, December, 1904.

² In the contest between the cattlemen and the shepherds the latter had under free range an advantage in that their sheep could feed where the cattle could not, as well as grazing other regions so close that cattle could not follow.

domain. Thus the macaroni wheat is said to occupy some ten million acres formerly used for pasturage. Yet despite all this there can be little doubt that for some time to come vast tracts in these States will remain devoted solely to grazing.

The point which it is of especial importance to understand is that with the filling up of the northern group of these States there has come to an end the time when the wool-grower of this country could turn to still unoccupied lands for refuge from the ever-menacing competitors in other branches of agriculture. Ever since the industry arose in this country, such advances as have been made came through the opening up of new regions; and it has been upon such advances that we have had to rely to offset the decline (increased, though not primarily caused, by these advances) which took place elsewhere. This is a factor which for the future has been eliminated. On the other hand, we now find the industry located under conditions such as promise to make its refuge less insecure than in former cases. Because of the character of the region there are not as many other agricultural pursuits likely to become serious rivals as was the case in the East. This means that the actual direction which the industry takes will be determined to a greater extent than formerly by the competition it meets from others in its own line of production. But it is here, if anywhere in this country, that wool-growing as an independent industry has a future. Under the economic conditions which seem likely to prevail, this region is better suited for wool-growing than any other. Hence new domestic competition need not be feared. All of which points to the conclusion that in the future of the real industry of wool-growing in the United States a greater part than ever before will be played by the competition from abroad.

There is one other form of competition to which wool-growing is subject, that of mutton-raising, or the question of mutton *versus* wool. Wool-growing has generally been spoken of above as if it were the sole, or at least the main, object in keeping sheep; and for most of the existence of this industry in the United States such has been the case. But there are many indications that for the future here also a change is impending.

The people of this country seem to have been slower than most in recognizing the good qualities of lamb and mutton, probably due in part to the fact that most of the flocks in earlier years were not of the species best suited for mutton. Though the taste for this meat has been steadily growing, yet the chief increase in the demand (the exports are insignificant) has come from the needs of a rapidly increasing population.

As has already been stated, the movement towards mutton did not begin in the region to the west of the Alleghanies until the fall of wool prices after 1880. But by 1890 it was estimated that fully 50 per cent. of the sheep to the east of the Mississippi River were of mutton breeds.¹ These sheep need to be kept in smaller flocks, besides requiring a richer pasture and greater care than the ordinary merino; and such requirements this region was well prepared to meet. It was found that as a part of general farming a small flock could be kept with very little additional cost, and there was a good market for their sheep near at hand. Then the raising of spring lambs proved especially profitable, the practice being to buy Western ewes in the fall, cross them with a mutton ram, sell the lambs early in the spring, and fatten the ewes for slaughter later. Feeding his grain in this manner has frequently proved the farmer's most profitable way of marketing it, not to mention the improvement of

¹ For figures in 1893 see the wool manufacturers' *Bulletin*, vol. xxv. p. 110.

his land thereby. That these advantages are generally recognized is indicated by the fact that at present fully 80 per cent. of the sheep of this region are of mutton breeds.¹ At present the chief object in keeping sheep in this section of the country is mutton and lamb, not wool; and such it is likely to continue, for few regions where sheep are kept are so well adapted to the mutton breeds. We have already found that sheep-raising here is but a part of general farming. Now, it seems, wool-growing is but incidental to the raising of lamb and mutton.

Turning to the West, we find that even there wool no longer holds undisputed sway as against mutton. The introduction of mutton rams has proceeded so rapidly that in 1900 it was figured that 30 per cent. of the wool grown here came from mutton sheep. This tendency is more general in the northern and central States than in the more barren and dryer districts further to the south. The demand for "feeders" from the granger States, where most of the Western sheep sent to market are fattened, has had much to do with this. With the increasing demand for mutton, the advantages to be gained will certainly lead the sheep-raiser, where possible, to give more of his attention to the meat-producing qualities of his flock, and less to the fleece. In brief, wool-growing as the main object in sheep-raising has already practically disappeared from the East, and seems destined to play a less and less important part in the West. So that the future domestic wool supply is likely to depend less on the wool market than on the market for lamb and mutton.

¹ *Census of 1900*, vol. v. p. cciv. These include the French (Rambouillet) merino and delaines, the mutton breeds of the merino race, as well as the English breeds, the most popular of the latter being the Shropshire and Southdown. For a detailed statement of the proportion of each breed in the flocks of Ohio see *Ohio Agricultural Report*, 1902, pp. 30-36.

Thus far it has been the competitors affecting the supply side of this industry which have received our attention. But our survey would be incomplete without some consideration of those which affect the side of demand. The most striking feature here is the great falling off in the consumption of wool which has taken place in the country since 1890. Up to that year, according to the census figures, there had been an increase in the consumption of wool every decade since the figures began in 1840; yet in 1900 it dropped back nearly to the point reached in 1850.¹ The chief cause of the fall is the smaller importation of manufactures of wool; but as there is no present indication that these are likely to increase, and the imports of raw wool have not risen fast enough to offset this fall in consumption, we may fairly infer that it is not simply temporary. Moreover, the phenomenon, it appears, is not limited to this country, but general in its extent. Thus there proves to have been a slight falling off in the consumption of the United Kingdom,² while the figures of a well-known London firm indicate that the decline is general over both Europe and North America.³

¹ CONSUMPTION OF WOOL IN THE UNITED STATES (MILLION POUNDS).

	Imports. Raw wool.	Home production.	Net Supply.	Imports in form of manufactures @ 3 lbs. per \$1 value.	Total consumption.	Per capita consumption.
1890 . .	109	276	385	162	548	8.75
1900 . .	128	310	437	46	483	5.97

Census of 1900, vol. ix, p. 94. Also a comment on the figures for 1900.

² British Board of Trade, Charts for the St. Louis Exposition. These are based on figures of Helmuth, Schwartze & Co.

³ *Wool Report*, March 8, 1904, of Helmuth, Schwartze & Co. Commenting on the situation, they say: "The change is particularly striking in the United States where during the seven years 1887-93 the actual consumption of raw wool (in-

The explanation, of course, is to be found in the competition met with by this comparatively expensive fibre from less costly substitutes. The use of shoddy and similar forms of wool is on the increase. Competition between manufacturers in their efforts to undersell one another inevitably leads to a greater use of these cheaper raw materials,—a movement spurred on by improved methods for employing them, the result of efforts to meet the demand of the public for a less expensive fabric. The most dangerous rival, however, has been cotton. The consumption of cotton in this country has steadily advanced at a faster rate than that of wool,—a feature particularly marked since 1890.¹ Wool has been low in price during these years, but the fall in cotton has been proportionately greater. For the decade 1881-90 the average price of upland middling cotton was 10.8 cents, between 1891 and 1900 it averaged 7.6 cents, and yet the former figure was lower than for any like period since the 40's.² Not only do cotton goods seem to increase in favor faster than woollen, but cotton is invading its rival's own home. The use of cotton in the "manufactures of wool" is rising faster than that of wool itself.

cluding the equivalent of imported manufactures) was over 8½ pounds per head, in the succeeding eight years, 1894-1901, it was still over 7½ pounds on the average, while during the last two years it was barely more than 6½ pounds per head." Their figures give the quantity of wool, raw and cleaned, at the disposal of the industry on average periods per head of population for Europe and North America.

PERIOD.	Clean wool.	Year.	Raw wool.
1881-1890	2.57 lbs.	1880	4.46
1891-1900	2.76	1890	4.74
1901-1903	2.65	1900	4.45

See also the manufacturers' *Bulletin*, vol. xxxii. p. 75.

¹See table in the *Census of 1900*, vol. ix. p. 12. The advance in the exports of cotton goods does not sufficiently account for the greatly increased domestic manufacture, and, besides, the imports have increased.

²Based on the figures of the *Statistical Abstract of the United States*.

	<i>Approximate total of wool consumed in condition pur- chased.¹</i>	<i>Total consumption of cotton and cotton yarn in manu- factures of wool, including hosiery and knit goods.</i>
1890	434 million pounds	210 million pounds
1900	475 million pounds	332 million pounds

By far the greater proportion of this increased use of cotton has come in hosiery and knit goods. All this reveals one reason why the decline in the world's wool supply of late years was for so long unable to advance the price of that staple. That cotton will continue to be produced at such prices as ruled between 1890 and 1900 seems evident, though probably not at prices much lower. Recent events make plain that any increased demand tending to raise the price can at once be offset by an extension of the cotton acreage. But as a further decline to a lower level is not to be expected, it is unlikely that the use of cotton in place of wool will continue to increase so rapidly as it did while a lower price was coming in; provided, however, that the quotations for wool do not show a material and sustained advance.

Another feature of some significance in the demand for wool has been the change which has taken place in the grades most called for. The preference for coarser fabrics, which has been slowly growing ever since about 1840,² now prevails so extensively that in the last census it appeared that the manufacture of worsted goods used more wool than even that of woollens. As a result, the medium and coarse grades of wool used for worsted goods have been much in demand. In fact, these wools could never have maintained their relatively high price level in the face of the increased supply of cross-bred wool, had it not been for this favorable turn in the tide

¹Based on figures in *Census of 1900*, vol. ix, pp. 93-95, 118.

²This is illustrated by the changes in men's apparel. Formerly it was all preferably broadcloth, then worsted coatings grew in favor, and now the fashion dictates the coarser goods for the frock coat and dress suit.

of fashion. This development, if lasting, will be of no little importance to the sheep-raiser of this country, in case he is destined to be primarily a producer of mutton; for it means that the wool grown upon his sheep, being of these grades, will sell at so much the better price. It is also favorable to the consumer, for it is evident that, under the conditions which will increasingly prevail through the more advanced countries, growing wool upon mutton sheep must be the more economical method and thus produce the cheaper wool.

What conclusions now are to be drawn from this review of the struggle between the industry of wool-growing and its varied competitors? The very multiplicity of the competitors, with the numerous possible combinations of factors in the problem, and the differences in the strength of each, must render any deductions uncertain. The attempt has been but to point out certain dominant tendencies, and the results to which, under given conditions, they lead. To gain an understanding of these tendencies, we have studied the recent past. There, among other things, it was found that foreign wool has of late failed to gain ground against the domestic product, and, if anything, has lost. This, however, has not resulted, unless negatively, in any gain to the home grower; and that gain which he might perhaps have had, or at least divided with his foreign rival, has instead gone largely to the cotton planter. That the tariff is of benefit to the wool-grower is clear; but it is deceptive, and the extent of the aid received is generally less than the nominal duty would seem to indicate. Although there has been no marked alteration in the total wool clip of the country, and the falling off in the flocks has not been very serious, yet there have been marked changes in their distribution. A study of the causes for this makes it

clear that general agricultural conditions have been the determining factors in the course actually taken by this industry. The tariff, though not vain, has failed of the end desired. Inadequate for the task imposed, it was defeated by superior powers.

For the future these tendencies point to a decline in sheep-raising as an independent industry mainly for wool. Mutton will increasingly dominate the situation, and wool become but secondary. In the East, where sheep promise to be incidental to general farming, and wool incidental to mutton, the basis of the industry will be such that the tariff can be of but comparatively slight importance. In the West, which offers sheep-raising far better prospects and a more independent basis, protection can do much more for the wool-grower. Here the competition of the foreign grower is likely to become a more serious factor. But, just in so far as mutton becomes the main objective here in place of wool, to that extent the weight of this foreign rivalry will be lessened and the security of the industry strengthened.

Finally, as the new lands of the world are developed and made easily accessible, the location of industries depending largely on natural resources is more and more determined by physical conditions. In the United States these conditions are such as to render a further advance in wool-growing highly improbable, and a gradual decline likely. The power to prevent this, as experience shows, is not to be found in the present tariff. Hence, if such better division of labor as present progress permits is not to be taken advantage of,—if it is settled policy that an independent industry of wool-growing must be fostered and maintained in this country, both in the West and in the East,—then it is not enough to levy a duty which will simply offset such advantages as the foreign wool-grower may have, one designed simply to enable the domestic

grower to compete for the home market on equal terms. The foreign fleece is by no means the only rival of his sheep. Equally serious competitors are to be found at home in other products of agriculture. The very advantages and great resources of the country become obstacles. Therefore, he must have a duty that will not only enable him to compete with foreign wool, but one that will make his industry at least as profitable as any other that might be carried on in its place,—only thus can his flocks be maintained. Yet even then there remain the many forms of competition which operate upon the market for wool, so as to lessen the demand. Here the power of the tariff ends. Against these, duties are of slight avail; and, whether the industry would thrive in spite of this, only experience could tell. The deeper one studies this industry of wool-growing, the better he will realize how varied is the guise which its competitors assume, how manifold are the factors which determine its course, and, above all, how difficult it is to control that course artificially.

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THE HIBERNIA FIASCO: RECENT EFFORT OF THE PRUSSIAN FISCUS TO ACQUIRE COAL MINES.

THE recent developments in the coal mining industry in Germany have been of a character to attract wide attention. Conspicuous among these events is the effort of the Prussian Fiscus to acquire control of the coal mining company Hibernia. A proper understanding of this event requires some knowledge of the present situation of the German coal industry.

Hibernia is a mining company in the Rhenish-Westphalian or Ruhr district. This coal region has the largest production of the European continent. The Dortmund Mining District, which is nearly identical with the region in question, had an output of 67,533,681 metric tons in 1904, which was 55.9 per cent. of the total production of the German Empire. The mines in the Ruhr (with only two important exceptions) are combined in a cartell called the Rheinisch-Westfälische Kohlensyndikat. This syndicate practically fixes the price of coal for a large part of Germany, and for some neighboring regions also. In 1903 it was renewed for a term ending in 1915. Such an agreement is perfectly legal in Germany, where such combinations are as numerous as the so-called trusts in the United States. Public attention has been repeatedly attracted to this syndicate during the last five years. In 1900 there was a coal panic, and retail prices rose very high. An investigation made by the Prussian Abgeordnetenhaus exonerated the syndicate. It came off with flying colors also in the more recent (1903) and more extended *enquête* held under the auspices of the Imperial government. In the beginning of 1904 there was a brief coal strike,—the first important strike since 1889. The workmen surrendered on the promise of the government to investigate their complaints.¹ In the

¹The result of the government's investigation was a bill, introduced during the session 1904-05, for the amendment of the mining labor law, which regulates cer-

spring of the same year, attention was called to the Ruhr district by the fact that a number of unprofitable mines were shut down. There was a great outcry that the laborers were deprived of their means of livelihood, though, as a matter of fact, they seem to have readily found employment in the same district.¹ At the same time a great steel combination was formed on the model of the Coal Syndicate, and in close alliance with it. Besides this there have been from time to time mergers of important coal and iron concerns. The syndicate has thus been kept constantly in the public eye.

Until very recently the attitude of the Prussian and Imperial governments has been favorable to the cartells. In the spring of 1904 the Prussian Minister of Trade and Industry, Herr Moeller, in a speech before a bankers' convention, declared that the cartells were a necessity. The attitude of the Prussian Minister of Finance has been equally favorable. Referring to the projected steel cartell, he declared in the Abgeordnetenhaus on January 19, 1904, "I hold for my part that such an organization is absolutely indispensable." Evidence of this sort might be multiplied indefinitely.

Such having been the attitude of the government, its effort to secure Hibernia assumed great importance in industrial circles, because it seemed to indicate a change of policy, and to some it appeared as the beginning of a general scheme of nationalization of the coal fields. The mere

tain matters concerning which the mine workers complained, and particularly (a) length of day's work, especially at points of high temperature; (b) limitation of fines; (c) abolition of "*Wagen-nullens*,"—i.e., annulment of payments on improperly loaded mine cars; (d) over-time; and (e) compulsory establishment of committees of laborers to represent labor interests in certain matters. Speaking of the attitude of the government to the coal industry, one of the spokesmen of the operators remarked on the sudden change in that respect, and described the proposed intervention as a "*Husarenritt*" in the battle between capital and labor.

¹ The government in this case found little cause for complaint, but it introduced a bill during the session 1904-05 providing for an amendment of § 65 of the mining code, to the effect that, where there was a preponderant public interest demanding continuation of operations, those mines which showed a prospect of profit should not be shut down. The enforcement of the law lies, of course, with the Prussian mining administration.

purchase of Hibernia was not, of course, a very radical step for a government which already had such large mining interests as the Prussian Fiscus. The Fiscus is already the largest coal producer in Germany, producing altogether about fifteen million tons in 1904, in the Saar district and in Upper Silesia. Nor would the acquisition of Hibernia signify the beginning of government ownership in the Ruhr, because already in 1902 it had entered that district with the purchase of the undeveloped Gladbeck mine and extensive coal fields. In 1903, when the syndicate was being reorganized, the Fiscus was invited to enter with the Gladbeck mine, and Herr Kirdorf, the chairman of the syndicate, proposed to the Minister of Trade and Industry that the Fiscus, if it entered, should have a veto on any proposal to advance the price of coal. At that time, however, the government did not desire to join the syndicate.

The *Bergwerksgesellschaft Hibernia in Herne*, the mine which the Fiscus determined to acquire, had in May, 1904, a share capital of 53,500,000 marks. Its dividends, from 1900 to 1903, inclusive, were 15 per cent., 13 per cent., 10 per cent., and 11 per cent., respectively. Its chief financial relations appear to have been with the Berliner Handelsgesellschaft and S. Bleichröder in Berlin, and its directors include prominent industrial leaders, such as Behrens, Haniel, Lueg, and Junghann. Hibernia is the third largest mining company in Germany. It possessed in 1904 eleven deep shaft mines and a quota in the syndicate of 5,416,500 tons out of a total for all members of 73,156,633 tons, or 7.5 per cent. of the total.

The procedure of the government in its effort to acquire Hibernia, and the events that followed, created a degree of excitement in industrial circles which it would be difficult to exaggerate. It appears that Minister Moeller became somewhat uneasy over the increasing concentration in the coal industry and the increasing power of its leaders. At any rate, in May, 1904, he began to cast about to see what could be done to increase the influence of the Fiscus as a check on the syndicate. The mine Hibernia afforded

the most favorable conditions for acquisition by the Fiscus, not only on account of its size and advantageous conditions of production, but also because it was purely a mining company. Instead, however, of going to the company directly and making a proposition to purchase it, he determined to try to get control of it in the stock market. For this purpose he chose the Dresdner Bank as an intermediary, and offered to pay 240 for Hibernia shares on the delivery of three-fourths of the total issue of that date, together with a 5 per cent. commission, provided the constitutional authorities subsequently authorized the transaction. At that time the stock was quoted at 196½ (June 16). The Dresdner Bank proceeded to buy up the stock, at prices which rapidly advanced. At the end of June the price was 206, by July 15 it was 211, and on July 25 it had reached 220. Other stocks, particularly coal stocks, advanced in sympathy. This rise was called afterwards, when the cause of it was discovered, the *Moellerhausse*.

Suspicious were directed in every quarter except the right one, because the government on several occasions had stated its determination not to extend its holdings in the Ruhr, and Minister Moeller had told a director of Hibernia, as late as May 5, 1904, that the government had no such intentions. The rapid rise in the price of the stock made it evident to the Dresdner Bank that it would have great difficulty in getting the requisite number of shares, and this danger was increased by an unexpected action of the directors of Hibernia. On July 26 the directors decided to recommend an increase in the capital stock of 6½ million marks. This was done apparently without suspicion that it was the State which was trying to get the stock, and it was alleged that the action was taken solely for necessary improvements which had been under contemplation for several months. In consequence of this action, which, in the ordinary course of events, would be ratified by the general assembly of the company, the Dresdner Bank saw that it would be very difficult to obtain even a majority of the stock, and it therefore approached the *Handelsgesell-*

schaft, Bleichröder, and the Deutsche Bank to get their aid in carrying out the enterprise. The cat was thus let out of the bag! The leaders in the industrial region became greatly excited and highly incensed against the minister, especially for trying to get control through the assistance of their own bankers. The bankers thus approached all refused to touch the business, and some of them at least professed great indignation at the thought that they would sell out their clients. The conflict continued on the *Börse*. On July 28 Hibernia was quoted at 230. It was on the evening of this day that the purpose of the government became generally known. Owing to the solid opposition presented by the chief holders of the stock, it was apparent that purchase in the share market was a forlorn hope. The government, therefore, came forward on July 29 with an offer to the company to exchange, in the proportion of 8,000 marks in government bonds at 3 per cent. for 3,000 marks in the shares of Hibernia for the whole capital stock of the company.

The general assembly of Hibernia met on August 27, 1904. Its first action was the approval of an increase of the share capital by $6\frac{1}{2}$ million marks. Its second action was to decline the offer of the Prussian government. The Dresdner Bank did not vote its holdings. Thereupon it made a protest that the refusal of the government's offer was not definitive, because less than two-thirds of the share capital was voted. The general assembly then voted to place the new stock issue in hands which could be trusted to maintain the independence of the company. In consequence of the disputed validity of the vote of August 27, which refused the government's purchase offer, a second general assembly was held on October 14, 1904, when the proposition was again defeated, the vote standing 31,265,200 marks against 27,430,800 marks of the voting capital. The parties representing the government also failed to procure the repeal of the vote of August 27, increasing the capital stock, and in consequence they brought an action in the courts. This case has already been passed upon in

the court of first instance, which declared that there was nothing therein contrary to law..

When it was seen that the Dresdner Bank could not get the stipulated three-fourths of the capital stock, the government changed the agreement so as to take the shares actually obtained at the price previously agreed on. The Fiscus finally got possession of 27,552,800 marks of the share capital. The quotation of the stock went as high as 290. In connection with its purchase offer the government published, through the semi-official *Berliner Korrespondenz*, a statement that it did not intend to acquire any other coal mines. In this connection, notice should not be omitted of the fact that the syndicate sent a formal invitation for the entry of the fiscal mine Gladbeck as a member (September 22), but this invitation was again declined.

The government brought a bill before the Prussian Abgeordnetenhaus on November 18, to procure a ratification of its tentative agreement with the Dresdner Bank and of its purchase offer to Hibernia. In the report explaining this bill it was stated that the principal reason for the proposed step was that "there has developed in the current year in many directions a marked change in the balance of power in the Rhenish-Westphalian industry. A considerable number of works have been merged with other larger works; and also, within the larger concerns, through the transfer of considerable amounts of shares in a few hands, the way has been paved for the formation of a community of interest between large coal and iron works, as well as coal dealers and shipping companies. Against this development the strengthening of the influence of the State, through the extension of the State mining operations, appears as an undeniable necessity." It was also stated that "the royal government regards a further development of government ownership as thoroughly inadvisable, both for economic and political reasons, and therefore is entirely opposed to such a project."

The introduction of this bill into the Abgeordnetenhaus led the shareholders of Hibernia to band themselves together

more firmly than before. In the House itself the spokesmen of the industrial interests met the government in a lively and somewhat acrimonious debate. The principal interest in this debate was that it gave an indication of the attitude of the government towards industrial combinations. Minister Moeller declared that he had been, and remained, an advocate of the cartells, provided they pursued a reasonable and statesmanlike policy. He said that the Coal Syndicate had justified itself up to 1903, when it was re-organized, but that it had been too dilatory in reducing prices during the industrial depression. He characterized the combination of the shareholders of Hibernia to prevent the government from getting control as a *Trotz-trust*, and advised them to refrain from provocative and theatrical measures. He admitted that there was no pressing necessity for government intervention in the policy of the syndicate, but he asserted that, if the government neglected this opportunity to increase its possessions in the Ruhr, it would not find another so favorable. He declared that the influence of the government in the syndicate would be highly beneficent both for the syndicate and for the public. On the other hand, the government did not wish to have a veto against any advance in the prices of coal, and such a concession would be a *Danaergeschenk* which would cause the government great embarrassment. Finally, he warned the syndicate against monopolistic tendencies, and asserted that the people would prefer a State monopoly to a private monopoly, though he would lament the establishment of a State monopoly, as marking the beginning of the decline of German industry.

It is not important to follow the debate in detail. A number of speakers attacked the government's policy, but there seems to have been more objection to Minister Moeller's methods than to the ends he aimed at. There was a strong personal animus in the remarks of several of the speakers. It seems to have been generally understood, however, that the government would be able to put the bill through. The bill was referred to the Budget Com-

mission, which reported favorably. The Abgeordnetenhaus passed it on January 23, 1905, and the Herrenhaus in the month following. The State thus became a minority shareholder in Hibernia. The other shareholders in the mean time (December 12, 1904) had banded themselves together into a sort of voting trust by the formation of a company entitled *Gesellschaft Herne, Vereinigung von Hiberniaaktionären, G. m. b. H.*, with a capital of 36,000,000 marks, which holds a majority of the Hibernia shares. The syndicate is a shareholder in this company. This was the culmination of the *Trotztrust* (defiance trust), denounced by Minister Moeller,—a combination which Syndicus Hirsch, of Essen, declared to be a *Trosttrust* (consolation trust).

As the matter stands to-day, therefore, it is the government against the syndicate. If the government's claim, that the issue of the 6½ million of share capital is illegal, is upheld by the courts on appeal, it will possess a majority of the stock. So far the courts have decided against the government's claim. Certainly, as a minority shareholder, it cannot expect to have much influence in the counsels of Hibernia against the solid opposition of the *Trotztrust*. About the only thing it can do is to prevent Hibernia from being merged, for example, with any large iron concern, because such a merger requires a three-fourths majority. But, even if the Fiscus does get control of the stock and of the vote of Hibernia in the syndicate, it would be a mistake to conclude that its influence would be very great unless there were sharp divisions in the counsels of the cartell. It will certainly be of no avail to prevent the merging of other coal companies,—the alleged evil which was specially referred to in the bill,—and it is difficult to understand what the government expected to accomplish in that direction.

In conclusion it may be said that the policy of extending government ownership of coal mines in the Ruhr, to the extent of buying Hibernia, seems to have a reasonable basis in the government's own need for coal; and this is

often conceded quite as freely in the circles of the coal industry as elsewhere. The method, however, by which the government sought to accomplish it is considered very obnoxious. This alone would not account for the serious way in which the affair has been taken. The energetic opposition to the purchase of Hibernia, which has become a part of the propaganda of the coal mining interests, arises chiefly from the fact that they have little confidence in the assertions of the government that the business will go no further.

FRANCIS WALKER.

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RECENT PUBLICATIONS UPON ECONOMICS.

Chiefly published or announced since May, 1905.

An asterisk prefixed to a title indicates a second and more detailed notice of a book announced in a previous number.

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I. GENERAL WORKS. THEORY AND ITS HISTORY.

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- BEROLZHEIMER (F.). *System der Rechts- und Wirtschaftsphilosophie. Band 2: Die Kulturstudien der Rechts- und Wirtsch. Philosophie*. Munich: C. H. Beck. 1905. 8vo. pp. 515. 13 m.
- [Vol. I, entitled *Philosophischer Einleitungsband*, appeared in 1904.]
- CARVER (T. N., editor). *Sociology and Social Problems*. Ginn & Co. [A collection of essays and excerpts, primarily for the use of students. Announced.]
- CONRAD (J.). *Grundriss zum Studium der politischen Oekonomie. 1. Teil: Nationalökonomie. 5. ergänzte Auflage*. Jena: G. Fischer. 8vo. pp. 420. 8 m.
- DEALEY (J. Q.) and WARD (L. F.). *A Text-book of Sociology*. New York: The Macmillan Co. 1905. 12mo. pp. 351. \$1.30.
- [A restatement, in readable form, of Dr. Ward's views, as set forth in his various books and papers.]
- EICHTHAL (E. d'). *Correspondance inédite de J. Stuart Mill avec G. d'Eichthal (1828-1842, 1864-1871)*. Paris: Alcan. 1905. 8vo. 2.50 fr.
- GARGAS (S.). *Volkswirtschaftliche Ansichten in Polen im 17ten Jahrhundert*. Innsbruck: Wagner. 1905. 8vo. pp. 261. 5 m.
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- [The first edition of this well-known work appeared in 1885.]
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- [“A scheme of policy . . . the outcome of Positivist doctrine.”]
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- [Critical appreciations of the three economists, with especial reference to their attitude toward the chief doctrines of the classical school. A reprint of the prefaces to Volumes IX. and X. of the new Fourth Series of the Biblioteca dell' Economista.]
- JEVONS (W. S.). *The Principles of Economics. A Fragment of a Treatise on the Industrial Mech-*

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[Besides the fragmentary posthumous treatise, "The Principles of Economics," this volume contains four other papers, upon Cantillon, the future of political economy, the match tax, and the pressure of taxation, which appeared in various publications prior to Jevons's death. "The Principles of Economics" is now chiefly of historical interest. The volume is edited, with a preface, by Henry Higgs.]

KELLES-KRANZ (C. de). La sociologie au XIX^e siècle. Paris: Giard et Brière. 1905. 8vo. 1.50 fr.

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[An excellent translation of a serviceable French manual.]

MARSHALL (A.). Handbuch der Volkswirtschaftslehre, übersetzt von H. Ephraim und A. Salz. Stuttgart: Cotta. 8vo. 12 m.

[The translation into German of Professor Marshall's Principles deserves to be noted.]

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[This is a second revised edition of Professor Diehl's commentaries on Ricardo. The entire work consists of Vol. I., the old translation of Ricardo's Principles by Baumstark, and Vols. II. and III., containing Diehl's elaborate commentaries on the text.]

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[Summarizes various articles previously published by the au-

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ELY (R. T.). Psychical Forces of Industry. Internat. Quart., July.

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[The question whether rent tends, in a progressive society, to bear a less or greater proportion to the return to capital is ably elucidated by the diagrammatic method.]

PADAN (R. S.). Marginal Utility and Exchange Value. Journ. Polit. Econ., June. [A criticism of the marginal utility conception.]

RAYNAUD (B.). Les discussions sur l'ordre naturel au XVIII^e siècle. De l'école du droit naturel aux Physiocrates. Rev. d'Econ. Pol., March, April.

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II. THE LABOR PROBLEM.

- AGNELLI (A.). Commento alla legge sugli infortuni del lavoro. Milan: Società editrice libraria, 1905. 8vo. pp. 920.
[A masterly work on a subject of much legal complexity and social interest.]
- BAGLIO (G.). Ricerche sul lavoro e su i lavoratori di Sicilia. Il Solararo, con appendice su l'Anglo-Sicula e la produzione di zolfi in Sicilia. Caltanissetta: Antonino Russo, 1905. 61.
- BOUAILLE (C. de F. de). Conciliation et arbitrage. Paris: Lecoffre, 1905. 12mo. pp. 228. 2 fr.
[In Bibliothèque d'économie sociale. A convenient but not wholly trustworthy review of efforts at industrial conciliation and arbitration in England, Belgium, Holland, Germany, France, the Australian states, and the United States. Opposes compulsory arbitration.]
- CIPPERLY (J. A.). Labor Laws and Decisions of the State of New York. Albany, N.Y.: Banks & Co.
[A useful and convenient compendium.]
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[Another collection of essays and excerpts. Announced.]
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[The new supplement may be had separately for 2.50 fr.]
- DRAKE (G.). Trade Unions. London: Methuen, 1905. 8vo. pp. 203. 2s. 6d.
- DUBIEF (F.). À travers la législation du travail. Paris: Cornely, 1905. 16mo. pp. 290. 3.50 fr.
- GIDE (Ch.). Économie sociale. Les institutions du progrès sociale au début du XX^e siècle. Paris: Larose, 1905. 12mo. pp. 465. 5 fr.
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[A careful study of labor organizations as a factor influencing legislation, and of the legal status of organizations in New York.]
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[Part I. describes what has been done by various employers for the welfare of employees. Part II. deals with the housing problem in a similar manner.]
- MÜLLER (O.). Die christliche Gewerkschaftsbewegung Deutschlands, mit bes. Berücks. der Bergarbeiter- u. Textil-Organisationen. Karlsruhe: G. Braun, 8vo. pp. 269. 3 m.
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- NICEFORO (A.). Les classes pauvres. Recherches anthropologiques et sociales. Paris: Giard et Brière, 8vo. 8 fr.
[An attempt to study the poor anthropometrically.]
- PICOU (A. C.). Methods of Industrial Peace. London: Macmillan, 1905. 8vo. pp. 240. 3s. 6d.
- RIBES-CHRISTOPLE (F. de). L'apprentissage et l'enseignement professionnel en France. Paris: Larose, 1905. 8vo. pp. 72. 1 fr.
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- ABBOTT (E.). The Wages of Unskilled Labor in the United States. Journ. Polit. Econ., June. [Based mainly upon a critical use of the data in the Aldrich report.]
- ADLER (Felix) and Others. Child Labor in the United States. Ann. Amer. Acad., May. [The entire May number is given up to the

- subject of child labor, and contains fourteen short articles, by as many writers, on different phases of the question.]
- BASCOM (John). *An Open versus a Closed Shop*. No. Amer. Rev., June. [Advocates the closed shop.]
- BEVERIDGE (W. H.). *The Reform of Trade Union Law: A New Proposal*. Econ. Rev., April. [Proposes a reform of the law which, since the Taff Vale decision, governs the civil liability of trade unions.]
- BROOKS (J. G.). *A New Peril for the Trade Union*. Internat. Quart., July. [A plea for the closed shop as "temporarily of considerable value in strengthening collective bargaining and the joint agreement, and a help toward a more tolerable organization of industry."]
- MAZZONI (N.). *Una pagina storica dell'organizzazione dei contadini. Lo sciopero del II mandamento di Mantova*. Giorn. degli Econ., May, June. [A valuable contribution to the history of the agricultural strikes.]
- MÜNSTERBERG (E.). Bericht über die 24. Jahresversammlung des Deutschen Vereins für Armenpflege und Wohltätigkeit. Jahrb. f. Gesetzg., 1905, Heft 2. [Report of the Danzig meeting. The discussion of the prevention of tuberculous diseases awakened the chief interest.]
- RAYNAUD (B.). *Les comités de salaires dans les mines anglaises*. Mus. Soc., April. [In these industries, which represent one-tenth of the working population of Great Britain, no strike has occurred for six years.]
- SALUCCI (A.). *Gli scioperi italiani nel 1904*. Riforma Soc., April. [The Italian strikes of 1904 were 324 industrial and 48 agrarian as compared with 528 industrial and 45 agrarian in 1903.]
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- UNSIGNED. *The Unemployed*. Quart. Rev., April. [The dangers of pauperization are emphasized.]

III. SOCIALISM.

- BOUSSIN (H.). *Fourier: Contribution à l'étude du socialisme français*. Paris: Société Nouvelle de Librairie et d'Édition. 8vo. pp. 617. 12 fr.
- [An exhaustive study of the social philosophy of Fourier. Treats also of the influence of his philosophy upon the development of socialistic thought.]
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DARÁNYI (I.). The State and Agriculture in Hungary (1896-1903). London: Macmillan. 1905. 8vo. pp. 264. 5s.

[A valuable report by the minister of agriculture, translated by A. György.]

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[By the former premier and minister of agriculture.]

*PUDOR (H.). Das landwirthschaftliche Genossenschaftswesen im Ausland. I. Die skandinavischen Länder. Leipzig: F. Dietrich. 1904. 8vo. pp. 161. 7.50 m.

[An introduction sketches the history of co-operative ideas. Most space is given to a detailed account of the extraordinary development of agricultural societies

in Denmark, and to the export of their eggs, butter, pork, to England. Attention is also given to the recent marked growth in Finland.]

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- LAIR (M.). *Le problème viticole français. Rev. d'Econ. Intern.*, April. [Traces the distribution of French wines, which aggregate forty per cent. of the world's production.]
- MONDOLFO (G.). *Agricoltura e pastorizia in Sardegna nel tramonto del feudalismo. Rivista di Sociologia*, July-August, 1904.
- RACCA (V.). *Della utilità sociale di un istituto internazionale di agricoltura. Giorn. degli Econ.*, May.
- ROWNTREE (B. S.). *The British Farm Laborer. Independent Rev.*, June. [A summary of recent blue books on the subject.]
- SAMOGGIA (M.) and SERPIERI (A.). *Per una scuola laboratorio di economia e cooperazione rurale in Milano. Giorn. degli Econ.*, May.

V. POPULATION AND MIGRATION.

- BERNHEIMER (C. S.) and Others. *The Russian Jew in the United States. Philadelphia: The John C. Winston Co. 1905. 12mo. pp. 450. \$2.*
[A study of social conditions among the Russian Jews in New York, Philadelphia, and Chicago. As the work of a number of contributors, the various chapters are somewhat uneven in quality; but the book, as a whole, is interesting and valuable.]
- GRAZIANI (G.). *La emigrazione italiana nella Repubblica Argentina. Turin: G. B. Paravia e C., 1905.*
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[Maintains the racial inferiority of the negro, looks forward to the ultimate extinction of that race, and insists that "the color line must be drawn firmly, unflinchingly."]
- In Periodicals.*
- BODIO (L.). *La législation et la statistique comparées de l'émigration et de l'immigration. Rev. Econ. Intern.*, May. [Studies primarily the movement of Italians beyond the boundaries of Italy.]
- FLEMING (W. L.). *Immigration to the Southern States. Pol. Sci. Quart.*, June. [Immigration, though not large, is increasing, chiefly from the stimulus of the railways. Much of it is in colonies. It seldom reaches the black belt; it tends to varied agriculture.]
- GOLDSTEIN (F.). *Die Uebervölkerung Deutschlands. Jahrb. f. Nat. Oek., March.* [Proposes as remedy for the disquieting overpopulation of the cities the foundation of agricultural and industrial colonies in the country districts.]
- LANDA (M. J.). *The Case for the Allen. Fort. Rev.*, June. [They have introduced new industries into England.]
- MACLEAN (Annie M.). *Significance of the Canadian Migration. Amer. Journ. Sociol.*, May. [The author thinks that it remotely signifies a union between the two countries.]
- PARETO (V.). *Il costo di produzione dell'uomo e il valore economico degli emigranti. (A proposito di un articolo del Prof. F. Coletti.) Giorn. degli Econ.*, April. [An answer to Coletti's criticism in the March number.]
- TOSTI (Gustavo). *Italy's Attitude toward her Emigrants. No. Amer. Rev.*, May. [Author is acting Italian consul-general in New York.]
- ZERI (A.). *Le infermità e le imperfezioni fisiche quali cause di inabilità al servizio militare nell'armata italiana fra gli iscritti di leva delle classi dall'anno 1875 al 1882. Riforma Soc.*, May.

VI. TRANSPORTATION.

ACWORTH (W. M.). *The Elements of Railway Economics*. London: Oxford Univ. Press. 1905. pp. 159. 2s.

[A first instalment of a treatise upon railway economics designed for the needs of English students. This volume deals with railway capital, expenditure, income, rates, and public control. A very useful handbook.]

GARAY (T.) et PIETRI (F. G.). *Le régime des chemins de fer en Italie*. Paris: Giard et Brière. 1905. 8vo. 1.50 fr.

MAURY (F.). *Le Port de Paris hier et demain*. Paris: Guillaumin & Cie. pp. 279. 3.50 fr.

[A useful but somewhat uncritical account of the port of Paris, the development of water-transportation before 1845, the competition with the railways and the subsequent adjustment. Urges the extension of canal and river improvements.]

PRATT (E. A.). *Railways and their Rates*. London: Murray. 1905. 5s.

VARIOUS. *President Roosevelt's Railway Policy*. Boston: Ginn & Co. 1905.

[A series of addresses *pro* and *con*.]

In Periodicals.

ACWORTH (W. M.). *British Canals*. *Econ. Journ.*, June. [Arguing against current proposals for State-aided canals in Great Britain.]

CLEGG (P.). *La politique de la Suisse en matière de chemins de fer*. *Rev. d'Econ. Intern.*, May.

CONTENTO (A.). *Un punto nero nella legge sull' esercizio ferroviario di stato*. *Giorn. degli Econ.*, June. [Critiques a protectionist clause in the new State railway legislation, providing that home industries be favored in the purchase of supplies.]

CORDES (T. M.). *Der Elbe-Trave-Kanal und seine wirtschaftliche Bedeutung*. *Jahrb. f. Gesetzg.*, 1905. Heft 2.

JARAY (G. L.). *Le régime des chemins de fer en Italie*. *Rev. de Sci. et de Lég. Fin.*, 3, 1. [Presents historical summary and an account of existing conditions. Compares French and Italian policies.]

MORRIS (Ray). *Federal Rate Regulation*. *Atlantic Monthly*, June. ["Speaking generally, no scheme for Federal rate regulation has yet been proposed which seems likely to work, or to prove as effective a means of keeping rates down as the natural competition, not between carriers, but between localities."]

NEMRY (L.). *Le développement des voies navigables en Prusse*. *Rev. d'Econ. Intern.*, April.

PHILIPPOVICH (E. v.). *Die wissenschaftliche Behandlung des Transportwesens*. *Zeitschr. f. Volksw., Soc. Pol., u. Verw.*, 14, Heft 1 and 2. [An address prepared for the St. Louis Congress of Sciences, considering in scholarly fashion the development of the literature on transportation and its relation to geography, law, economics, and the military art.]

VII. FOREIGN TRADE AND COLONIZATION.

BLONDEL (G.). *Derniers traités du commerce de l'Europe*. Paris: Pedone. 1905. 1.50 fr. each.

[A series of brochures containing commercial treaties, translated and prefaced by G. Blondel. There have already appeared *Traité de commerce entre l'Allemagne et la Russie* and *Traité de commerce entre l'Italie et la Suisse*.]

La politique commerciale de l'Allemagne et les nouveaux traités de commerce. Paris: Larose. 1905. 8vo. pp. 27. 75 fr.

BRANDE (B.). *Die Grundlagen und die Grenzen des Chamberlainismus*. Zur Tariffbewegung im gegenwärtlichen England. Zürich: E. Roscher. 1905. 8vo. pp. 150. 2 m.

[In *Züricher Volksw. Studien*, edited by H. Herkner.]

CUNNINGHAM (W.). *The Rise and Decline of the Free Trade Movement*. London: Macmillan. 1905. 8vo. pp. 212. 2s. 6d.

[Second edition, revised, with two new chapters.]

FRANÇOIS (G.). *Essai sur le commerce et son organisation en France et en Angleterre*. 1891. Paris: Giard et Brière. 1905. 8vo. 7 fr.

FUCHS (C. J.). *The Trade Policy of Great Britain and her Colonies since 1860*. London: King. 1905. 7s. 6d.

[A translation by C. H. M. Archibald.]

GANNAY (P.). *L'impérialisme économique et la grande industrie anglaise*. Paris: Pichon. 1905. 8vo. 7 fr.

[Reviews the history of England's leading industries in connection with England's colonial expansion.]

IRELAND (A.). *The Far Eastern Tropics*. Boston: Houghton, Mifflin & Co. 8vo. pp. 339. \$2.

[Studies the British, Dutch, French, and American dependencies. Pays no little attention to economic conditions and questions of colonial finance.]

SCHALK (E.). *Der Wettkampf der*

Völker, m. besond. Bezugnahme auf Deutschland u. die Ver. Staaten. Jena: Fischer. 1905. 8vo. pp. 228. 4 m.

[In the series of prize essays on *Natur u. Staat*, edited by Professors Ziegler, Conrad, and others.]

SCHÜLLER. *Schutzzoll und Freihandel*. Vienna: F. Tempsky. 8vo. pp. 304.

[Written from protectionist standpoint.]

TARIFF COMMISSION REPORT. Vol. II., Part 1. *The Cotton Industry*. London: P. S. King & Son. 1905. 4to. pp. 200. 2s. 10d.

[The second instalment of the Report of the Chamberlain Tariff Commission, containing a description of the present position of the British cotton industry, a provisional scale of proposed duties, summary of witnesses' evidence, charts, and statistical tables.]

VIBERT (P.). *La colonisation pratique et comparée*. Vol. II. *Colonies étrangères*. Paris: Cornely. 1905. 8vo. pp. 422. 8 fr.

YOU (A.). *Madagascar: Histoire, organisation, colonisation*. Paris: Berger-Levrault. 1905. 8vo. pp. 652. 12 fr.

In Periodicals.

BELLOE (H.). *The Argument for Protection*. *Contemp. Rev.*, June. [Protection is advantageous only under special and unusual circumstances.]

CHAPMAN (S. J.). *Are Manufactures Unstable Internationally?* *Econ. Journ.*, June. [A theoretic article, discussing and controverting certain views of Mr. Cunyng-hame's on the conditions of equilibrium in international trade.]

Some Social Conceptions underlying the Fiscal Controversy. *Econ. Rev.*, April. [Points out the fact that "orthodox" economists have not based their free-trade theories upon a hard, narrow, and soulless view of society, but upon the essential solidarity of all social interests.]

COLETTI (F.). Il dazio doganale sul grano e il consumo del vino. *Riforma Soc.*, May. [Notes an attack upon the grain duties by the wine interests.]

HEWINS (W. A. S.). The Influence of the New German Commercial Treaties on British Industries. *Nat. Rev.*, June. [A gradual decline of exports to Central Europe.]

MACNAUGHTEN (R. E.). A Study of Exports and Imports. *Econ. Rev.*, April. [Combats the theory that imports and exports must necessarily balance.]

OLIVETTI (A. O.). La politica commerciale svizzera ed i recenti trattati di commercio. *Riforma Soc.*, April. [A good summary of recent tariff legislation and commercial treaties in Switzerland.]

RAE (J.). English Shipping under Protection. *Contemp. Rev.*, May. [The burdensome effects of protection between 1815 and 1840.]

UNSIGNED. Preference: The Colonial View. *Quart. Rev.*, April. [A good account.]

VIII. MONEY, BANKING AND EXCHANGE.

CLEVELAND (F. A.). The Bank and the Treasury. New York: Longmans. 1905. 8vo. pp. 328. \$1.50.

[A variety of suggestions, good and bad, are made for the regulation of our banking system. The continuance of the Independent Treasury is advocated, deposits with the banks to be used as a means of regulating the money market and to secure an elastic currency.]

HOMBURGER (P.). Die Entwicklung des Zinsfusses in Deutschland 1870-1903. *Volkswirtschaftliche Studie*. Frankfurt: J. D. Sauerländer. 1905. 8vo. pp. 106. 2.40 m.

JEIDELS (O.). Das Verhältniss der deutschen Grossbanken zur Industrie, und besonders zur Eisenindustrie. Leipzig: Duncker & Humblot. 8vo. 6.00 m.

JENKS (J. W.), HANNA (H. H.), and CONANT (C. A.). Gold Standard in International Trade. Washington: Government Printing Office. 1904.

[The report of the United States Commission on International Exchange, upon the introduction of the gold standard in China, with many appendices from different sources, concerning the gold standard in the Philippine Islands, Panama, Mexico, and the Straits Settlements.]

JOHNSON (J. F.). Money and Currency. Ginn & Co. [Announced.]

LACOMBE (E.-J.). Études sur le change espagnol. Paris: Guillaumin & Cie. 1905. 18mo. pp. 212. 3 fr.

[A reprint, with additions, of articles published in the *Journal l'Information*. Discusses the causes of the fluctuations of Spanish exchange, and advocates a purely gold monometallism.]

WARNAK (M.). Die Entwicklung des deutschen Banknotenwesens. Berlin: E. Ebering. 1905. 8vo. pp. 286. 6 m.

[In the series of *Rechts. und Staatsw. Studien*, edited by E. Ebering.]

In Periodicals.

GAINES (M. W.). The Price of Silver. *Yale Rev.*, May. [A study of the causes which, since 1893, have tended still further to depress the gold price of silver.]

NOYES (A. D.). Finance. *Forum*, current numbers. [These able reviews of all topics of contemporary interest in the field of private or public finance are always worthy of note.]

SCHMIDT (H.). The Working of the Elastic Clause of the German Bank Act. *Journ. Inst. Bank.*, April. [A paper followed by a discussion, in which several London bankers joined.]

STEINBACH (R.). Die Verwaltungskosten der Berliner Grossbanken. *Jahrb. f. Gesetzg.*, 1905, Heft 2.

TAEGER (K.). Die Einwirkung der letzten Wirthschaftskrisis auf die industriellen Aktiengesellschaften in Deutschland. (Conclusion.) Ann. des Deutsch. Reichs, 1905, 4.

TAYLOR (W. G. L.). The Source of Financial Power. Journ. Polit.

Econ., June. [An analysis of financial organization. "The process is that of transmuting goods which give returns on a single operation into goods which give returns on an indefinite number of operations."]

IX. FINANCE AND TAXATION.

BEKEN (G.). The Taxation of Site Values. London: King. 1905. 6d.

[Has special reference to the Report of the Royal Commissioners on Local Taxation and the Land Values Assessment Bill of 1904.]

BULLOCK (C. J., editor). Select Readings and Documents in Public Finance. Ginn & Co. [Announced.]

BUSINESCU (D.). Das Tabakmonopol in Rumänien. Jena: G. Fischer. 1905. 8vo. pp. 151. 5 m.

[In Stieda's Volksw. und Wirthschaftsgesch. Abhandlungen.]

DEL GUERRA (E.). La legislazione finanziaria. Novara: Fratelli Miglio. 1905.

NINA (L.). La teoria del lotto di stato. Turin: Fratelli Bocca. 1905. 4 l.

SKODLER (V.). System der direkten Steuern in Oesterreich. Band I.: Allg. Teil und Realsteuern. Graz (Styria). 1905. 8vo. pp. 248. 3.60 m.

STOURM (R.). Systèmes généraux d'impôts. 2^{me} édition, révisée et mise au courant. Paris: Guillaumin. 1905. 8vo. pp. 430. 9 fr.

In Periodicals.

CADOUX (G.). L'avenir des budgets de Paris. Rev. de Sci. et de Lég. Fin., 3, 1. [An interesting account of efforts recently made by the city of Paris to defray "ex-

traordinary" expenses out of "ordinary" revenues without recourse to loans.]

DAVIDSON (John). Financial Relations of the Dominion of Canada and the Provinces. Econ. Journ., June. [An excellent account, historical and descriptive.]

KLEINWÄCHTER (F.). Gebühren und Verkehrssteuern. Jahrb. f. Nat. Oek., April. [An interesting critical article.]

LÖWENFELD (W.). Die Statistik der direkten Steuern in Ungarn. Zeitschr. f. Volksw., Soc. Pol., u. Verw., 14, Heft 3.

MEILING (M.). Die Reform des kommunalen Finanzwesens auf Grund des Gesetzes vom 14 Juli 1893 und der Berliner Gemeindehaushalt 1890-1900. Jahrb. f. Nat. Oek., March. [A detailed examination of the effect on Berlin of the reform of 1893. Finds the results in the main satisfactory.]

NINA (L.). Le entrate del comune di Roma ed il loro naturale incremento. Giorn. degli Econ., June. [A continuation of the article on the finances of Rome in the November number.]

POLIER (L.). La réforme des impôts directs en Wurtemberg. Rev. de Sci. et de Lég. Fin., 3, 1. [A careful account of the income tax introduced by the law of 1903.]

ROBERTSON (E.). The Drink Monopoly and the National Revenue. Nineteenth Cent., June. [Urges heavier taxation.]

X. CAPITAL AND ITS ORGANIZATION: COMBINATIONS.

HIRSCHAUER (H.). *The Dark Side of the Beef Trust*. Jamestown, N.Y.: T. Z. Root. 75 cents.

[A severe arraignment of the "beef trust" for putting unclean and diseased products upon the markets.]

JUDSON (F. N.). *The Law of Interstate Commerce and its Federal Regulation*. Chicago: T. H. Flood & Co. pp. 500.

[A valuable treatise; of interest to the student of the problems of industrial organization in the United States, although intended primarily for the lawyer.]

UNDESIGNED. *Proceedings of the Tenth Annual Convention of the*

National Association of Manufacturers. New York. 1905. 12mo. pp. 320.

[The Proceedings of the Convention, held at Atlanta, May 16 to 18, discuss superficially a number of subjects; much hostility to the closed shop is evidenced.]

In Periodicals.

ROBBINS (H.). *Public Ownership versus Public Control*. Amer. Journ. Sociol., May. [Chiefly a comparison between street railways in Glasgow and Boston, the conclusion being that, for American cities, private ownership with public control is preferable.]

XI. ECONOMIC HISTORY.

ARIAS (G.). *Il sistema della costituzione economica e sociale italiana nell'età dei comuni*. Turin, Rome: Roux e Viarengo. 1905. 8vo. pp. 558. 8 l.

BENNETT (R.) and ELTON (J.). *History of Corn Milling*. Vol. IV. *Some Feudal Mills*. London: Simpkin. 1905. 8vo. pp. 242. 12s. 6d.

CALLENDER (G. S., editor). *Selected Readings in the Economic History of the United States*. Ginn & Co. [Announced.]

CAUDERLIER (E.). *L'evoluzione economica nel secolo XIX*. Versione e note di Alberto Geisser, con una appendice sui salari industriali in Italia nella seconda metà del secolo XIX. Rome: Soc. edit. Laziale. 1904. 16mo. pp. 333.

COMAN (K.). *The Industrial History of the United States*. New York: The Macmillan Co. [Announced.]

GIRAUD (J. B.). *L'acier de Carme. Notes sur le commerce de l'acier à l'époque de la renaissance*. Lyons. 1904. 8vo. 7.50 fr.

HARTMEYER (H.). *Der Weinhandel im Gebiete der Hanse im*

Mittelalter. Jena: G. Fischer. 1905. 8vo. pp. 124. 2.50 m.

[In the series of Abhandlungen edited by W. Stieda.]

HUSSON (F.). *Les tapissiers, artisans français. Étude historique*. Paris: Marchal. 1905. 8vo. 5 fr.

KOWALEWSKY (M.). *Die ökonomische Entwicklung Europas bis zum Beginn der kapitalistischen Wirtschaftsform*. Band III. Berlin: R. L. Prager. 1905. 8vo. pp. 508. 7.50 m.

[Translated from the Russian. This volume treats English, German, Spanish, and Italian economic institutions in the second half of the Middle Ages.]

MOERICKE (O.). *Die Agrarpolitik des Markgrafen Karl Fr. v. Baden*. Karlsruhe: K. Braun. 1905. 8vo. pp. 102. 3.20 m.

[In Volksw. Abhandlungen der badischen Hochschulen.]

SOMMERLAD (Theo.). *Die wirtschaftliche Tätigkeit der Kirche in Deutschland*. Band 2: *die Zeit des erwachenden Staatsgedankens bis zum Aufkommen der Geldwirtschaft*. Leipzig: J. J. Weber. 1905. 8vo. pp. 328. 6 m.

[The first volume, treating the

- period to the time of Charlemagne, appeared in 1900. The author is dozent at Halle.]
- SOTTAS (J.). Histoire de la compagnie royale des Indes Orientales. 1664-1719. Paris: Pion-Nourrit. 1905. 8vo. 10 fr.
- In Periodicals.*
- EULENBURG (F.). Zur historischen Bevölkerungsstatistik in Deutschland. Jahrb. f. Nat. Oek., April. [On the population of Breslau from the fifteenth century.]
- HAUSER (H.). Études sur l'histoire économique de l'ancienne France. Rev. d'Econ. Pol., April, May. [Reviews what has been written on the subject, and attempts to summarize the results.]
- MISKS (L. v.). Zur Geschichte der österreichischen Fabrikgesetzgebung. Zeitschr. f. Volksw., Soc. Pol., u. Verw., 14. Heft 3. [A useful study of the legislation concerning child labor in Austria from the latter eighteenth century to the act of 1859.]
- MOLL (E.). Die preussische Alaunhüttenindustrie und das Alaunsyndikat von 1836-1844. Jahrb. f. Gesetzg., 1905, Heft 2. [Concluding article, dealing with the period 1836-1844.]
- PHILLIPS (Ulrich B.). The Economic Cost of Slaveholding in the Cotton Belt. Pol. Sci. Quart., June. [An able article, concluding that slaveholding in the antebellum period was essentially burdensome.]
- RODOLICO (N.). Il sistema monetario e le classi sociali nel medio evo. (A proposito di alcune leggi del Comune Fiorentino.) Rivista di Sociologia, July-August, 1904.

XII. DESCRIPTION OF INDUSTRIES AND RESOURCES.

- ALEXANDER (W.). The Life Insurance Company. New York: Appleton. \$1.50. [Designed for the general student rather than for the actuary or the insurance official. An excellent general treatise, of interest to the student of economics.]
- BELLESSERT (A.). La Roumanie contemporaine. Paris: Perrin. 1905. 16mo. 3.50 fr.
- BROWN (R., editor). A History of Accounting and Accountants. Edinburgh: Jack. 1905. 8vo. pp. 459. 10s. 6d. [This work, by various hands, presents a history of accounting and describes its present practice in various countries.]
- DUREL (L.). La situation commerciale et industrielle du Japon. Paris: Larose. 1905. 8vo. pp. 86. 2 fr.
- GRANDERYE (L. M.). L'industrie de l'or. Paris: Masson. 1905. 8vo. pp. 138. 3 fr.
- HALLE (E. v., editor). Amerika. Seine Bedeutung für die Weltwirtschaft und seine wirtschaftlichen Beziehungen zu Deutschland. Hamburg: Hamb. Börsenhalle. 1905. 8vo. pp. 763. 6 m. [A series of essays by different hands describing various phases of economic life in America; chiefly on the United States, but on other countries also. Copious maps and illustrations.]
- MARCHET (J.). Holzproduktion und Holzhandel von Europa, Afrika, und Nord-Amerika. 1 Band. Vienna: W. Frick. 1904. 8vo. pp. 499. 12 m.
- METSCHKE (H.). Bergbau und Industrie in Westfalen und im Ruhrgebiet unter der Herrschaft der Caprivischen Handelsverträge. Berlin: F. Siemenroth. 8vo. pp. 107. 2 m.
- PIRIOU (E.). L'Inde contemporaine et le mouvement national. Paris: Alcan. 1905. 16mo. 3.50 fr.
- SENSINI (G.). Le variazioni dello stato economico d'Italia. Rome: Ermanno Loescher & Co. 1904. [An elaborate investigation of Italy's recent economic history. Part I., Indirect Tests, considers the movement of population, consumption of commodities, educa-

- tion, crime; Part II., Direct Tests, deals with agriculture, manufactures, labor conditions, foreign trade, transportation, public finance, and private wealth.]
- THIELE (O.). Salpeterwirtschaft und Salpeterpolitik. Studie über das ehemalige europäische Salpeterwesen. Tübingen: H. Laupp. 8vo. pp. 242. 6 m.
- [Published as a supplement to the Zeitschr. f. Gesamte Staatswissenschaft, at a reduced rate for subscribers.]
- UNSIGNED. Industrial Education and Industrial Conditions in Germany. Special Consular Reports. Vol. XXXIII. Washington: Government Printing Office. 1905. 8vo. pp. 323.
- In Periodicals.*
- BOURGIN (II.). L'industrie de la boucherie à Paris au dix-neuvième siècle. L'Année Sociologique, 1905 (pp. 1-118). [Mainly concerned with the variations in the number of butchers and in the size of their establishments,—a conscientious study, but with no very striking results.]
- COLETTI (F.). Della convenienza di una serie di studi sulla vita economica e sociale della Sardegna. Giorn. degli Econ., April. [Announcing a series of studies on Sardinia by students of the University of Sassari.]
- HASSARD (Charles). The Milk Trade from Within. Part II. Econ. Rev., April. [An interesting account of the difficulties which beset the honest dairyman.]
- KUHLO (A.). Le développement de la brasserie bavaroise et son exportation. Rev. Econ. Intern., May.
- LAYTON (W. T.). Argentina and Food Supply. Econ. Journ., June. [Argentina, already a chief source of food supply for Great Britain, has great latent resources.]
- OPPEL (A.). Gegenwart und Zukunft der Baumwolle. (Third article.) Zeits. f. Socialw., April.
- OWEN (D.). Le Lloyd et le registre du Lloyd. Rev. Econ. Intern., May. [Traces the history of marine insurance.]
- SOMBART (W.). The Industrial Progress of Germany. I. Yale Rev., May. [The present article describes the geographical factors in Germany's industrial advance.]

XIII. STATISTICAL THEORY AND PRACTICE.

- KIAER (A. N.). Statistische Beiträge zur Beleuchtung der ehelichen Fruchtbarkeit. 8 Abschnitt. Christiania: J. Dybwad. 1905. 8vo. pp. 232, charts. 8.75 m.
- In Periodicals.*
- FALKENBURG (Ph.). Die Heirats-häufigkeit der niederländischen Frauen in der zweiten Hälfte des XIX. Jahrhunderts. Zeits. f. Socialw., April.
- FERROGLIO (G.). I risultati del censimento italiano del 1901. Riforma Soc., May. [A brief summary.]
- HEITZ (E.). Glossen zu den bisherigen Volkszählungen im Deutschen Reich. Zweites Stück: Die Beziehungen zwischen Gewerbe, Handel, und Volkszahl. Jahrb. f. Gesetzg., 1905, Heft 2.
- MARCHETTI (L.). Il metodo nella statistica delle migrazioni periodiche interne. Giorn. degli Econ., April.
- MOST (O.). Die berufliche und soziale Gliederung der Bevölkerung Oesterreichs nach den Ergebnissen der Volkszählung vom 31. Dez. 1900. Jahrb. f. Gesetzg., 1905, Heft 2.
- TSCHEPPOW (A. A.). Die Aufgaben der Theorie der Statistik. Jahrb. f. Gesetzg., 1905, Heft 2. [Emphasizes the importance of the work of Lexis in the new direction taken by modern statistical theory.]
- VARIOUS. Bull. Int. Stat. Inst., XIV., 3^{me} liv. [A special number on National Income, with elaborate studies of the distribution of wealth in Prussia and France, by Wagner, De Foville, Guyot, and others.]

XIV. NOT CLASSIFIED.

FAIRLIE (J. A.). The National Administration of the United States of America. New York: Macmillan. \$2.50.

[Of interest to students of economics, as well as to those of political science. Gives the most convenient account available of the work of the Treasury Department and of the other departments concerned with affairs of economic interest.]

UNSIGNED. Proceedings of the American Political Science Association. Lancaster, Pa.: Wickersham Printing Co.

[Contains papers on local finance and railroad taxation.]

In Periodicals.

BROOKS (R. C.). The Sewage Farms of Berlin. *Pol. Sci. Quart.*, June. [The Berlin system is successful as to health and cleanliness, and the financial burden is not unduly heavy.]

HAMMER (A.) et CHANVIN (C.). La lutte antialcoolique en Norvège. *Mus. Soc.*, May. [The law of 1904 is declared to be vexatious and an unjustifiable interference with personal liberty.]

UNSIGNED. Economic Effect of Cattle Disease Legislation. *Econ. Journ.*, June. [The British Act of 1896 has affected Canada alone, has worked well, and has not harmed the British consumer.]

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